

# HP High Performance Clusters LC 3000 Series Cabling Guide



March 2004 (First Edition)  
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## About This Guide

This guide provides cabling information for the HP High Performance Cluster LC 3000.

### Audience Assumptions

This guide is for the person who installs, administers, and troubleshoots servers. HP assumes you are qualified in the servicing of computer equipment and trained in recognizing hazards in products with hazardous energy levels and are familiar with weight and stability precautions for rack installations.

### Where to Go for Additional Help

In addition to this guide, the following information sources are available:

- User documentation for the cluster components
- *HP High Performance Clusters LC Series Setup and Installation Guide*

### Technical Support

Refer to the *HP High Performance Clusters LC Series Setup and Installation Guide* for technical support.

## Server and Switch Connections

### Server Connections

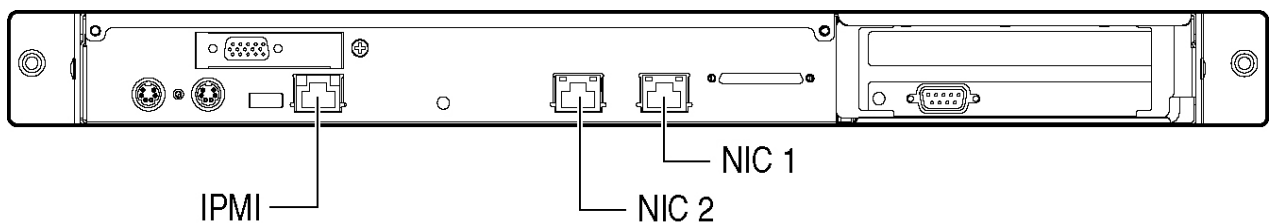


Figure 1-1: DL145 rear view

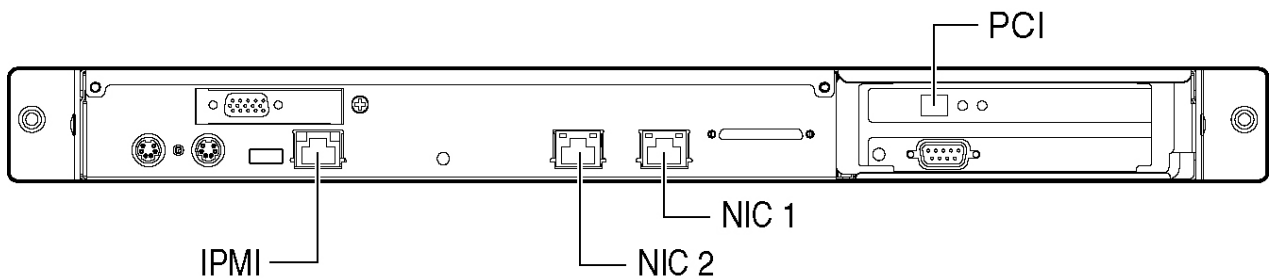


Figure 1-2: DL145 rear view with Myrinet adapter

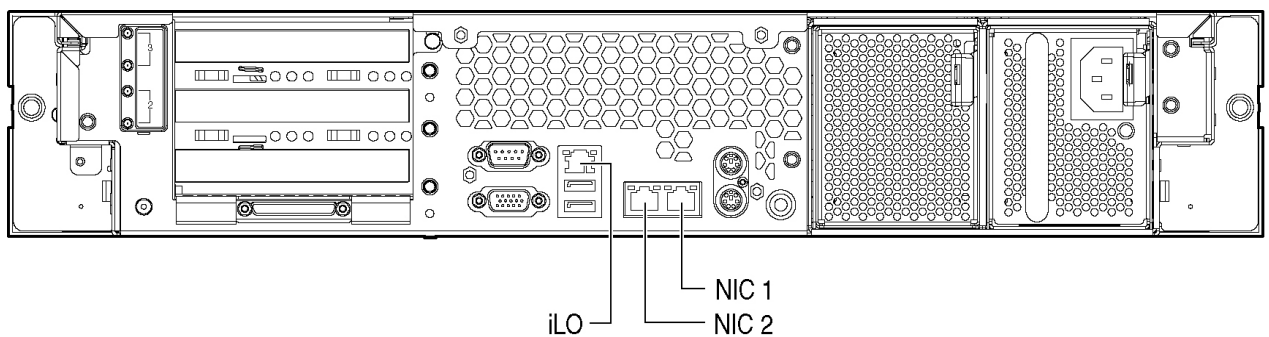


Figure 1-3: DL380 rear view

## Switch Connections

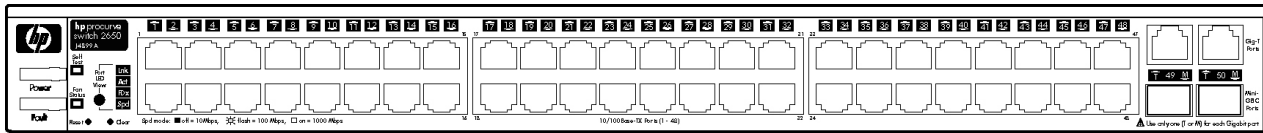


Figure 1-4: ProCurve 2650 rear view

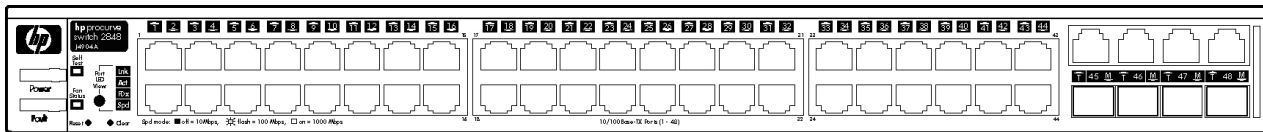


Figure 1-5: ProCurve 2848 rear view

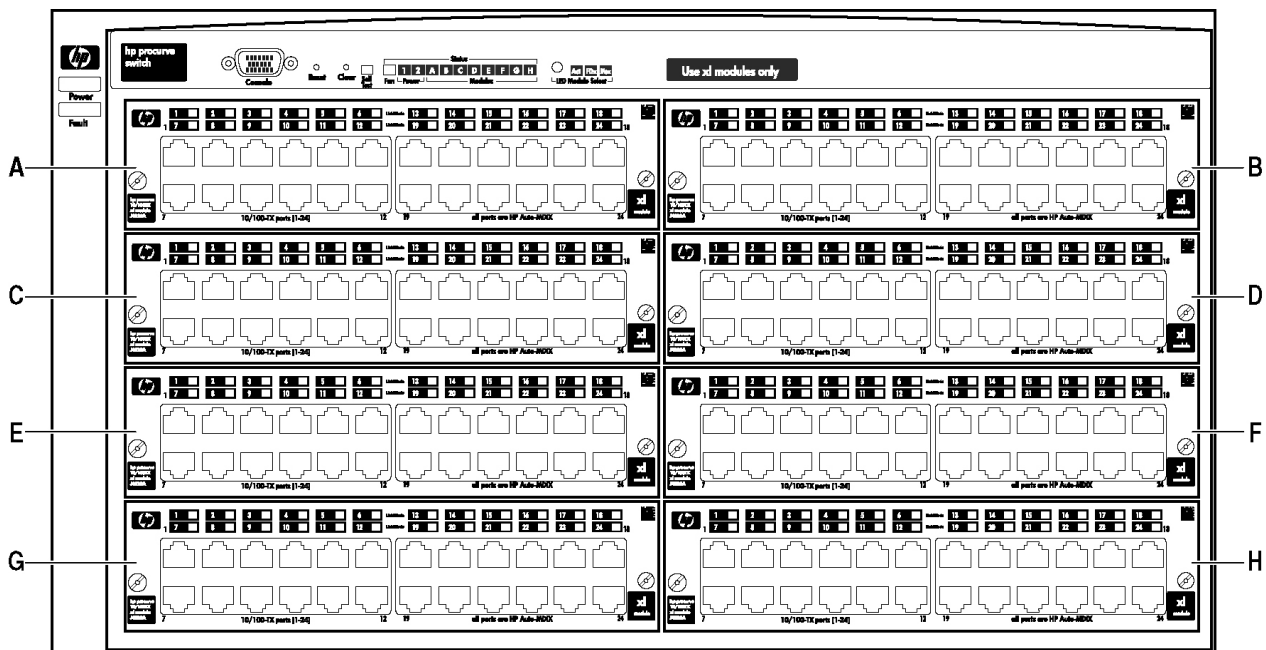


Figure 1-6: ProCurve 5372 rear view showing all modules

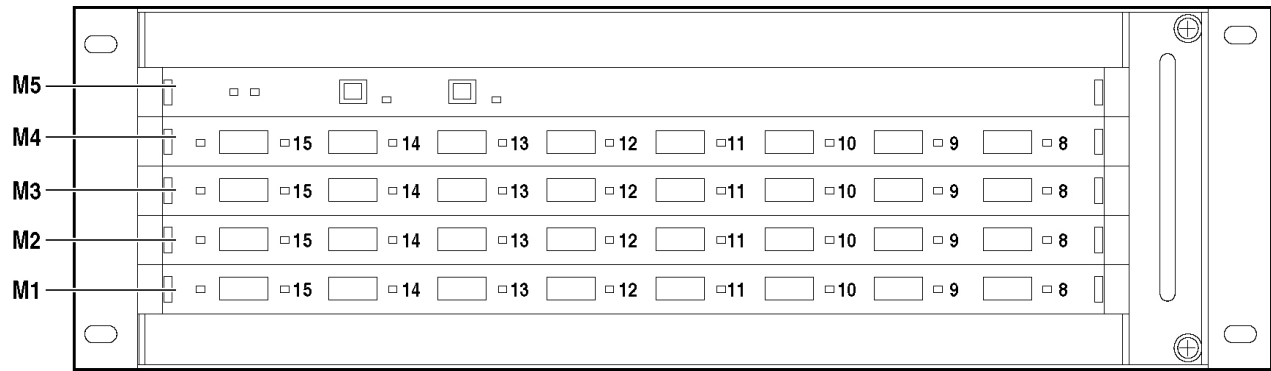


Figure 1-7: Myricom 5 slot switch rear view

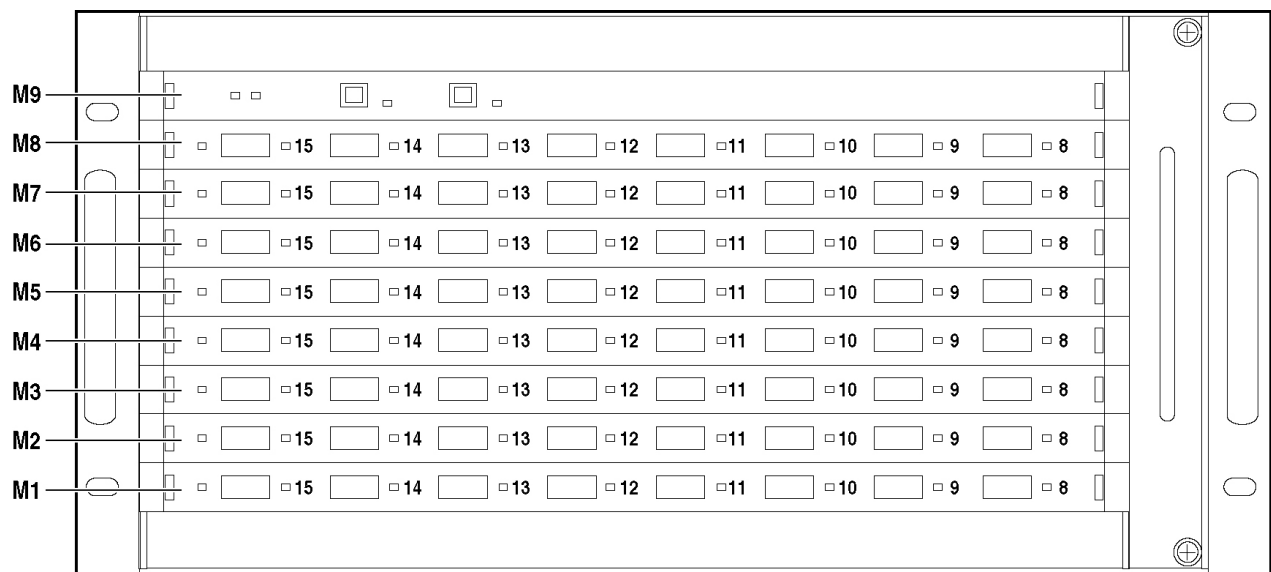


Figure 1-8: Myricom 9 slot switch rear view

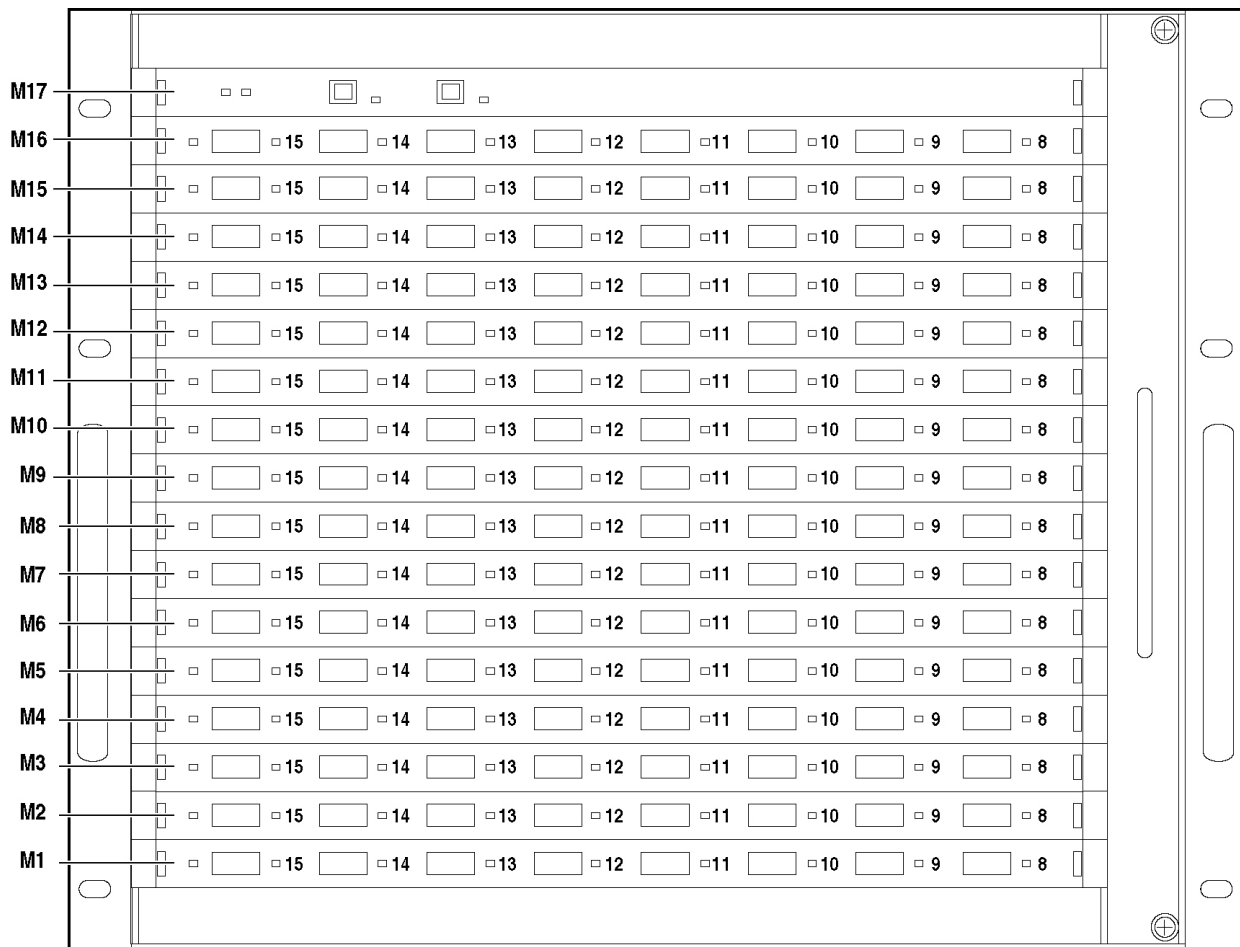
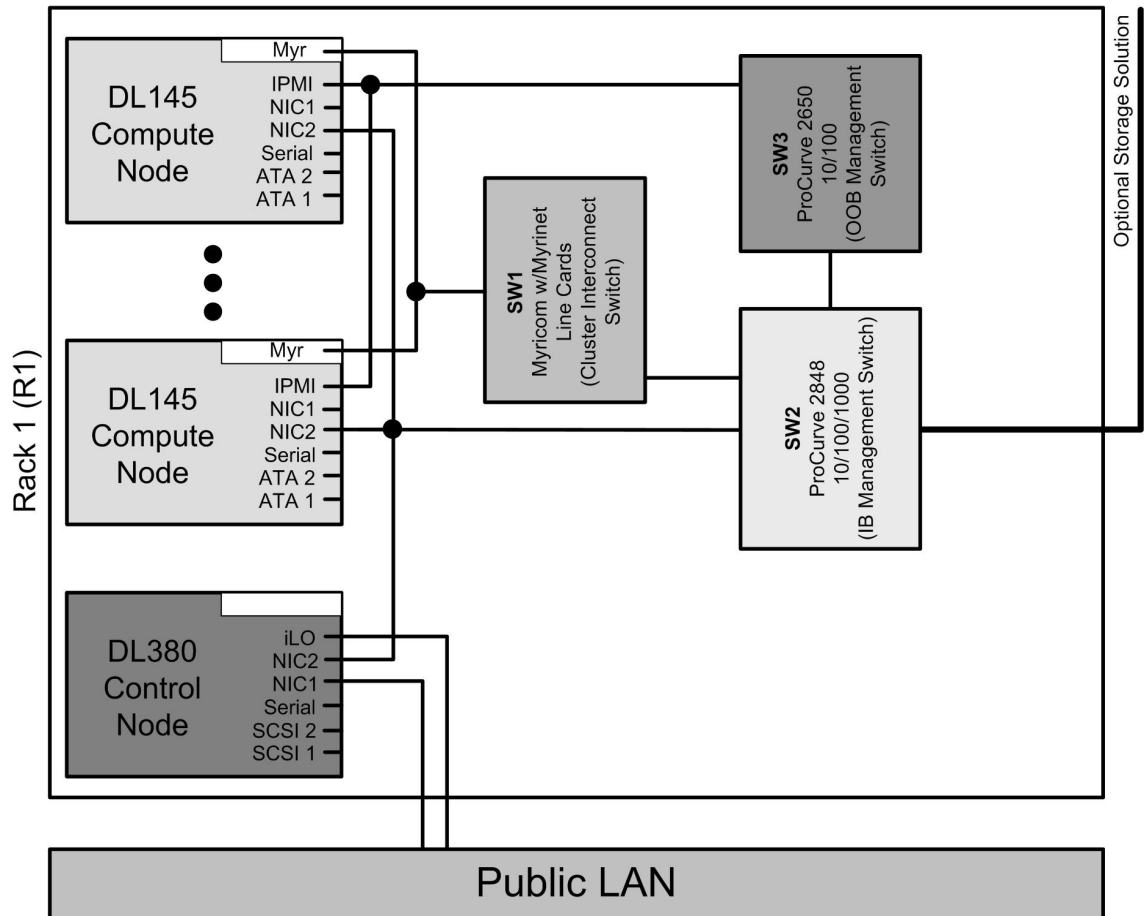


Figure 1-9: Myricom 17 slot switch rear view

## 16 Node Myrinet Expandable to 32 Nodes



## Rack Diagram

Rack 1 (R1)		
42		
41		
40	S33	Expansion
39	S32	Expansion
38	S31	Expansion
37	S30	Expansion
36	S29	Expansion
35	S28	Expansion
34	S27	Expansion
33	S26	Expansion
32	S25	DL145
31	S24	DL145
30	S23	DL380 or DL145
29		
28	S22	DL145
27	S21	DL145
26	S20	DL145
25	S19	DL145
24	S18	DL145
23	S17	DL145
22	SW3	ProCurve 2650
21	SW2	ProCurve 2848
20	TFT5600	
19	S16	DL145
18	S15	DL145
17	S14	DL145
16	S13	DL145
15	S12	DL145
14	S11	DL145
13	S10	DL145
12	S9	DL145
11	S8	DL145
10	S7	DL145
9	S6	DL145
8	S5	DL145
7	S4	DL145
6	S3	DL145
5	S2	DL145
4	S1	DL145
3	SW1 Myricom 5 slot chassis w/Myrinet line cards	
2		
1		

## Point-to-Point Cabling Guide

**Table 2-1: Cable Label Nomenclature**

Symbol	Description
R	Rack number
S	Control/Compute/Storage node number
SW	Out of Band (OOB) Management Switch/Cluster Interconnect Switch/In Band (IB) Management Switch number
M	Module letter or Module number
P	Port number
NIC	NIC port number
IPMI	IPMI port
PCI	Myrinet Adapter (in PCI slot)

**Table 2-2: 16 Node Myrinet Cabling for DL145 LC Clusters Expandable to 32 Nodes**

OOB Switch Cabling		Cluster Interconnect Switch Cabling		IB Management Switch Cabling	
Origin (server)	Destination (switch)	Origin (server)	Destination (switch)	Origin (server)	Destination (switch)
R1-S1-IPMI	R1-SW3-P1	R1-S1-PCI	R1-SW1-M1-P8	R1-S1-NIC2	R1-SW2-P1
R1-S2-IPMI	R1-SW3-P2	R1-S2-PCI	R1-SW1-M1-P9	R1-S2-NIC2	R1-SW2-P2
R1-S3-IPMI	R1-SW3-P3	R1-S3-PCI	R1-SW1-M1-P10	R1-S3-NIC2	R1-SW2-P3
R1-S4-IPMI	R1-SW3-P4	R1-S4-PCI	R1-SW1-M1-P11	R1-S4-NIC2	R1-SW2-P4
R1-S5-IPMI	R1-SW3-P5	R1-S5-PCI	R1-SW1-M1-P12	R1-S5-NIC2	R1-SW2-P5
R1-S6-IPMI	R1-SW3-P6	R1-S6-PCI	R1-SW1-M1-P13	R1-S6-NIC2	R1-SW2-P6
R1-S7-IPMI	R1-SW3-P7	R1-S7-PCI	R1-SW1-M1-P14	R1-S7-NIC2	R1-SW2-P7
R1-S8-IPMI	R1-SW3-P8	R1-S8-PCI	R1-SW1-M1-P15	R1-S8-NIC2	R1-SW2-P8
R1-S9-IPMI	R1-SW3-P9	R1-S9-PCI	R1-SW1-M2-P8	R1-S9-NIC2	R1-SW2-P9
R1-S10-IPMI	R1-SW3-P10	R1-S10-PCI	R1-SW1-M2-P9	R1-S10-NIC2	R1-SW2-P10
R1-S11-IPMI	R1-SW3-P11	R1-S11-PCI	R1-SW1-M2-P10	R1-S11-NIC2	R1-SW2-P11
R1-S12-IPMI	R1-SW3-P12	R1-S12-PCI	R1-SW1-M2-P11	R1-S12-NIC2	R1-SW2-P12
R1-S13-IPMI	R1-SW3-P13	R1-S13-PCI	R1-SW1-M2-P12	R1-S13-NIC2	R1-SW2-P13

*continued*



**Table 2-2: 16 Node Myrinet Cabling for DL145 LC Clusters Expandable to 32 Nodes** *continued*

OOB Switch Cabling		Cluster Interconnect Switch Cabling		IB Management Switch Cabling	
Origin (server)	Destination (switch)	Origin (server)	Destination (switch)	Origin (server)	Destination (switch)
R1-S14-IPMI	R1-SW3-P14	R1-S14-PCI	R1-SW1-M2-P13	R1-S14-NIC2	R1-SW2-P14
R1-S15-IPMI	R1-SW3-P15	R1-S15-PCI	R1-SW1-M2-P14	R1-S15-NIC2	R1-SW2-P15
R1-S16-IPMI	R1-SW3-P16	R1-S16-PCI	R1-SW1-M2-P15	R1-S16-NIC2	R1-SW2-P16
R1-S17-IPMI	R1-SW3-P17	R1-S17-PCI	R1-SW1-M3-P8	R1-S17-NIC2	R1-SW2-P17
R1-S18-IPMI	R1-SW3-P18	R1-S18-PCI	R1-SW1-M3-P9	R1-S18-NIC2	R1-SW2-P18
R1-S19-IPMI	R1-SW3-P19	R1-S19-PCI	R1-SW1-M3-P10	R1-S19-NIC2	R1-SW2-P19
R1-S20-IPMI	R1-SW3-P20	R1-S20-PCI	R1-SW1-M3-P11	R1-S20-NIC2	R1-SW2-P20
R1-S21-IPMI	R1-SW3-P21	R1-S21-PCI	R1-SW1-M3-P12	R1-S21-NIC2	R1-SW2-P21
R1-S22-IPMI	R1-SW3-P22	R1-S22-PCI	R1-SW1-M3-P13	R1-S22-NIC2	R1-SW2-P22
N/A	N/A	N/A	N/A	R1-S23-NIC2	R1-SW2-P23
R1-S24-IPMI	R1-SW3-P24	R1-S24-PCI	R1-SW1-M3-P14	R1-S24-NIC2	R1-SW2-P24
R1-S25-IPMI	R1-SW3-P25	R1-S25-PCI	R1-SW1-M3-P15	R1-S25-NIC2	R1-SW2-P25
R1-S26-IPMI	R1-SW3-P26	R1-S26-PCI	R1-SW1-M4-P8	R1-S26-NIC2	R1-SW2-P26
R1-S27-IPMI	R1-SW3-P27	R1-S27-PCI	R1-SW1-M4-P9	R1-S27-NIC2	R1-SW2-P27
R1-S28-IPMI	R1-SW3-P28	R1-S28-PCI	R1-SW1-M4-P10	R1-S28-NIC2	R1-SW2-P28
R1-S29-IPMI	R1-SW3-P29	R1-S29-PCI	R1-SW1-M4-P11	R1-S29-NIC2	R1-SW2-P29
R1-S30-IPMI	R1-SW3-P30	R1-S30-PCI	R1-SW1-M4-P12	R1-S30-NIC2	R1-SW2-P30
R1-S31-IPMI	R1-SW3-P31	R1-S31-PCI	R1-SW1-M4-P13	R1-S31-NIC2	R1-SW2-P31
R1-S32-IPMI	R1-SW3-P32	R1-S32-PCI	R1-SW1-M4-P14	R1-S32-NIC2	R1-SW2-P32
R1-S33-IPMI	R1-SW3-P33	R1-S33-PCI	R1-SW1-M4-P15	R1-S33-NIC2	R1-SW2-P33

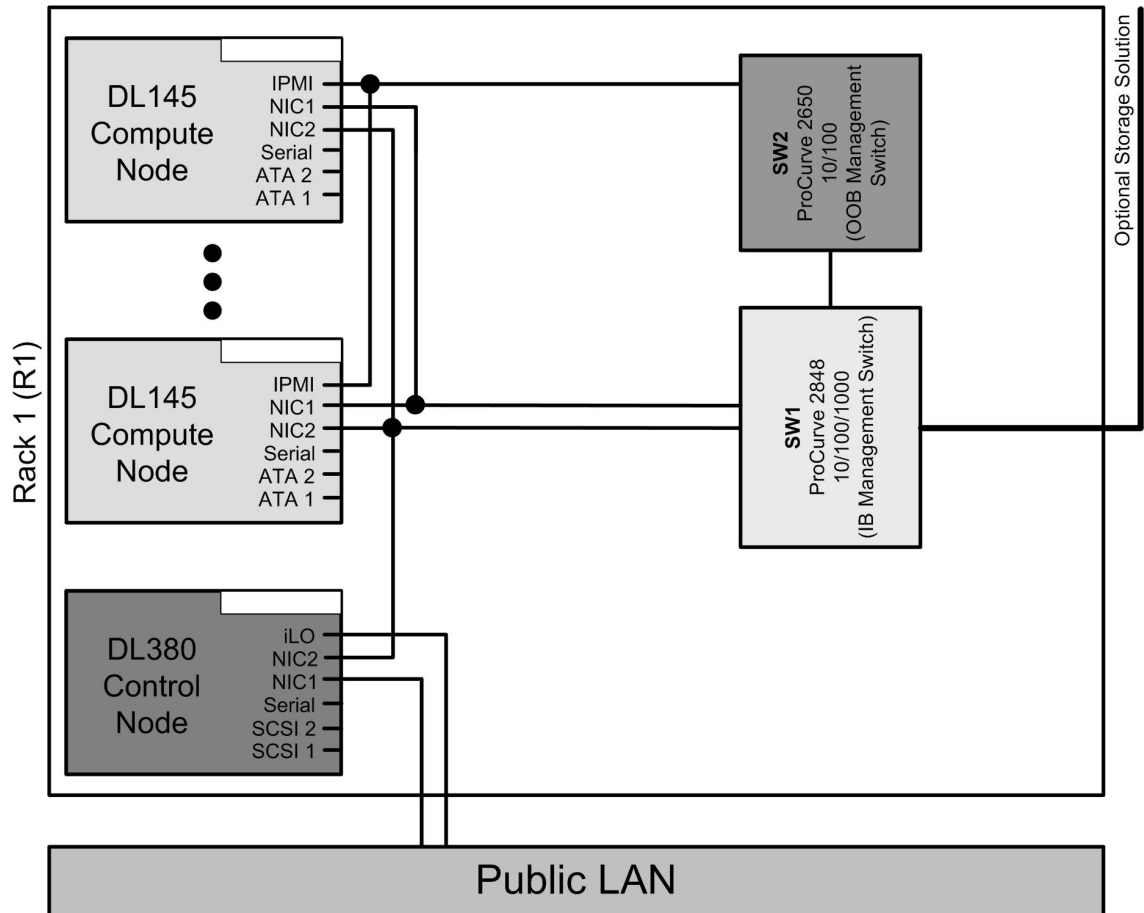
**Table 2-3: Myricom Monitor**

From	To
R1-SW1-M5-P1	R1-SW2-P47

**Table 2-4: OOB Management Switch Uplink**

From	To
R1-SW3-P48	R1-SW2-P48

## 16 Node GigE Expandable to 22 Nodes



## Rack Diagram

Rack 1 (R1)		
42		
41		
40		
39		
38		
37		
36		
35		
34		
33		
32		
31		
30	S23	DL380 or DL145
29		
28		
27		
26		
25	S22	Expansion
24	S21	Expansion
23	S20	Expansion
22	SW2	ProCurve 2650
21	SW1	ProCurve 2848
20	TFT5600	
19	S19	Expansion
18	S18	Expansion
17	S17	Expansion
16	S16	DL145
15	S15	DL145
14	S14	DL145
13	S13	DL145
12	S12	DL145
11	S11	DL145
10	S10	DL145
9	S9	DL145
8	S8	DL145
7	S7	DL145
6	S6	DL145
5	S5	DL145
4	S4	DL145
3	S3	DL145
2	S2	DL145
1	S1	DL145

## Point-to-Point Cabling Guide

Table 3-1: Cable Label Nomenclature	
Symbol	Description
R	Rack number
S	Control/Compute/Storage node number
SW	Out of Band (OOB) Management Switch/Cluster Interconnect Switch/In Band (IB) Management Switch number
M	Module letter or Module number
P	Port number
NIC	NIC port number
IPMI	IPMI port

Table 3-2: 16 Node GigE Cabling for DL145 LC Clusters Expandable to 22 Nodes					
OOB Switch Cabling		Cluster Interconnect Switch Cabling		IB Management Switch Cabling	
Origin (server)	Destination (switch)	Origin (server)	Destination (switch)	Origin (server)	Destination (switch)
R1-S1-IPMI	R1-SW2-P1	R1-S1-NIC1	R1-SW1-P1	R1-S1-NIC2	R1-SW1-P23
R1-S2-IPMI	R1-SW2-P2	R1-S2-NIC1	R1-SW1-P2	R1-S2-NIC2	R1-SW1-P24
R1-S3-IPMI	R1-SW2-P3	R1-S3-NIC1	R1-SW1-P3	R1-S3-NIC2	R1-SW1-P25
R1-S4-IPMI	R1-SW2-P4	R1-S4-NIC1	R1-SW1-P4	R1-S4-NIC2	R1-SW1-P26
R1-S5-IPMI	R1-SW2-P5	R1-S5-NIC1	R1-SW1-P5	R1-S5-NIC2	R1-SW1-P27
R1-S6-IPMI	R1-SW2-P6	R1-S6-NIC1	R1-SW1-P6	R1-S6-NIC2	R1-SW1-P28
R1-S7-IPMI	R1-SW2-P7	R1-S7-NIC1	R1-SW1-P7	R1-S7-NIC2	R1-SW1-P29
R1-S8-IPMI	R1-SW2-P8	R1-S8-NIC1	R1-SW1-P8	R1-S8-NIC2	R1-SW1-P30
R1-S9-IPMI	R1-SW2-P9	R1-S9-NIC1	R1-SW1-P9	R1-S9-NIC2	R1-SW1-P31
R1-S10-IPMI	R1-SW2-P10	R1-S10-NIC1	R1-SW1-P10	R1-S10-NIC2	R1-SW1-P32
R1-S11-IPMI	R1-SW2-P11	R1-S11-NIC1	R1-SW1-P11	R1-S11-NIC2	R1-SW1-P33
R1-S12-IPMI	R1-SW2-P12	R1-S12-NIC1	R1-SW1-P12	R1-S12-NIC2	R1-SW1-P34
R1-S13-IPMI	R1-SW2-P13	R1-S13-NIC1	R1-SW1-P13	R1-S13-NIC2	R1-SW1-P35

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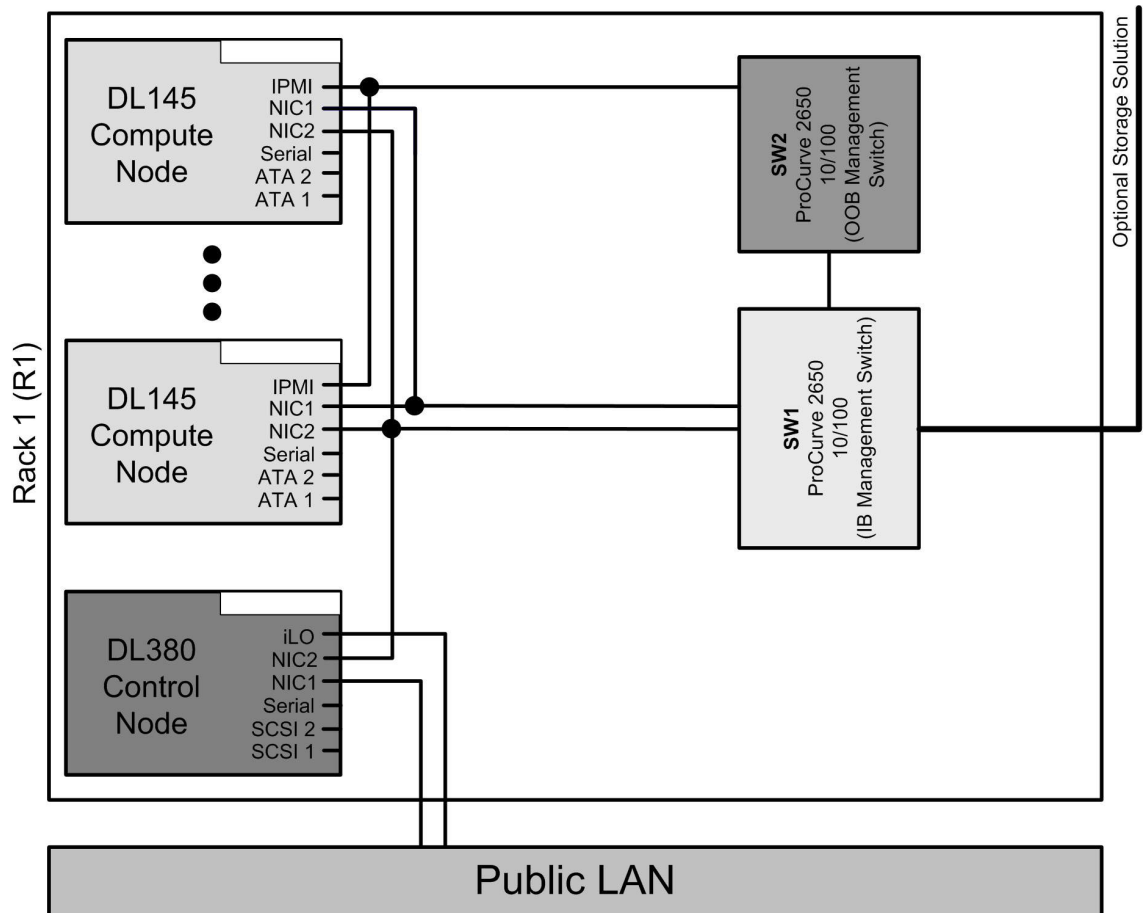
**Table 3-2: 16 Node GigE Cabling for DL145 LC Clusters Expandable to 22 Nodes** *continued*

OOB Switch Cabling		Cluster Interconnect Switch Cabling		IB Management Switch Cabling	
Origin (server)	Destination (switch)	Origin (server)	Destination (switch)	Origin (server)	Destination (switch)
R1-S14-IPMI	R1-SW2-P14	R1-S14-NIC1	R1-SW1-P14	R1-S14-NIC2	R1-SW1-P36
R1-S15-IPMI	R1-SW2-P15	R1-S15-NIC1	R1-SW1-P15	R1-S15-NIC2	R1-SW1-P37
R1-S16-IPMI	R1-SW2-P16	R1-S16-NIC1	R1-SW1-P16	R1-S16-NIC2	R1-SW1-P38
R1-S17-IPMI	R1-SW2-P17	R1-S17-NIC1	R1-SW1-P17	R1-S17-NIC2	R1-SW1-P39
R1-S18-IPMI	R1-SW2-P18	R1-S18-NIC1	R1-SW1-P18	R1-S18-NIC2	R1-SW1-P40
R1-S19-IPMI	R1-SW2-P19	R1-S19-NIC1	R1-SW1-P19	R1-S19-NIC2	R1-SW1-P41
R1-S20-IPMI	R1-SW2-P20	R1-S20-NIC1	R1-SW1-P20	R1-S20-NIC2	R1-SW1-P42
R1-S21-IPMI	R1-SW2-P21	R1-S21-NIC1	R1-SW1-P21	R1-S21-NIC2	R1-SW1-P43
R1-S22-IPMI	R1-SW2-P22	R1-S22-NIC1	R1-SW1-P22	R1-S22-NIC2	R1-SW1-P44
N/A	N/A	N/A	N/A	R1-S23-NIC2	R1-SW1-P45

**Table 3-3: OOB Management Switch Uplink**

From	To
R1-SW2-P48	R1-SW1-P48

## 16 Node Fast Ethernet Expandable to 22 Nodes



## Rack Diagram

Rack 1 (R1)		
42		
41		
40		
39		
38		
37		
36		
35		
34		
33		
32		
31		
30	S23	DL380 or DL145
29		
28		
27		
26		
25	S22	Expansion
24	S21	Expansion
23	S20	Expansion
22	SW2	ProCurve 2650
21	SW1	ProCurve 2650
20	TFT5600	
19	S19	Expansion
18	S18	Expansion
17	S17	Expansion
16	S16	DL145
15	S15	DL145
14	S14	DL145
13	S13	DL145
12	S12	DL145
11	S11	DL145
10	S10	DL145
9	S9	DL145
8	S8	DL145
7	S7	DL145
6	S6	DL145
5	S5	DL145
4	S4	DL145
3	S3	DL145
2	S2	DL145
1	S1	DL145

## Point-to-Point Cabling Guide

**Table 4-1: Cable Label Nomenclature**

Symbol	Description
R	Rack number
S	Control/Compute/Storage node number
SW	Out of Band (OOB) Management Switch/Cluster Interconnect Switch/In Band (IB) Management Switch number
M	Module letter or Module number
P	Port number
NIC	NIC port number
IPMI	IPMI port

**Table 4-2: 16 Node Fast Ethernet Cabling for DL145 LC Clusters Expandable to 22 Nodes**

OOB Switch Cabling		Cluster Interconnect Switch Cabling		IB Management Switch Cabling	
Origin (server)	Destination (switch)	Origin (server)	Destination (switch)	Origin (server)	Destination (switch)
R1-S1-IPMI	R1-SW2-P1	R1-S1-NIC1	R1-SW1-P1	R1-S1-NIC2	R1-SW1-P25
R1-S2-IPMI	R1-SW2-P2	R1-S2-NIC1	R1-SW1-P2	R1-S2-NIC2	R1-SW1-P26
R1-S3-IPMI	R1-SW2-P3	R1-S3-NIC1	R1-SW1-P3	R1-S3-NIC2	R1-SW1-P27
R1-S4-IPMI	R1-SW2-P4	R1-S4-NIC1	R1-SW1-P4	R1-S4-NIC2	R1-SW1-P28
R1-S5-IPMI	R1-SW2-P5	R1-S5-NIC1	R1-SW1-P5	R1-S5-NIC2	R1-SW1-P29
R1-S6-IPMI	R1-SW2-P6	R1-S6-NIC1	R1-SW1-P6	R1-S6-NIC2	R1-SW1-P30
R1-S7-IPMI	R1-SW2-P7	R1-S7-NIC1	R1-SW1-P7	R1-S7-NIC2	R1-SW1-P31
R1-S8-IPMI	R1-SW2-P8	R1-S8-NIC1	R1-SW1-P8	R1-S8-NIC2	R1-SW1-P32
R1-S9-IPMI	R1-SW2-P9	R1-S9-NIC1	R1-SW1-P9	R1-S9-NIC2	R1-SW1-P33
R1-S10-IPMI	R1-SW2-P10	R1-S10-NIC1	R1-SW1-P10	R1-S10-NIC2	R1-SW1-P34
R1-S11-IPMI	R1-SW2-P11	R1-S11-NIC1	R1-SW1-P11	R1-S11-NIC2	R1-SW1-P35
R1-S12-IPMI	R1-SW2-P12	R1-S12-NIC1	R1-SW1-P12	R1-S12-NIC2	R1-SW1-P36
R1-S13-IPMI	R1-SW2-P13	R1-S13-NIC1	R1-SW1-P13	R1-S13-NIC2	R1-SW1-P37

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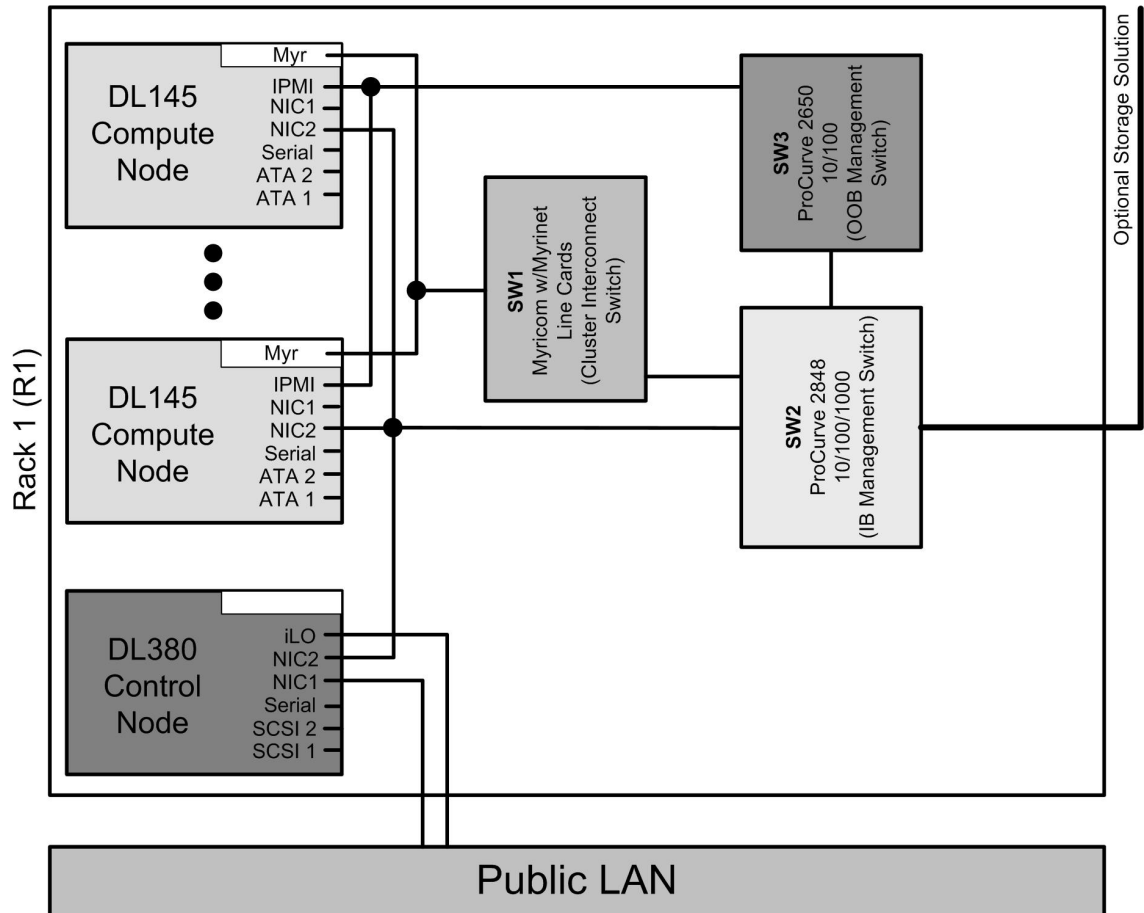
**Table 4-2: 16 Node Fast Ethernet Cabling for DL145 LC Clusters Expandable to 22 Nodes***continued*

OOB Switch Cabling		Cluster Interconnect Switch Cabling		IB Management Switch Cabling	
Origin (server)	Destination (switch)	Origin (server)	Destination (switch)	Origin (server)	Destination (switch)
R1-S14-IPMI	R1-SW2-P14	R1-S14-NIC1	R1-SW1-P14	R1-S14-NIC2	R1-SW1-P38
R1-S15-IPMI	R1-SW2-P15	R1-S15-NIC1	R1-SW1-P15	R1-S15-NIC2	R1-SW1-P39
R1-S16-IPMI	R1-SW2-P16	R1-S16-NIC1	R1-SW1-P16	R1-S16-NIC2	R1-SW1-P40
R1-S17-IPMI	R1-SW2-P17	R1-S17-NIC1	R1-SW1-P17	R1-S17-NIC2	R1-SW1-P41
R1-S18-IPMI	R1-SW2-P18	R1-S18-NIC1	R1-SW1-P18	R1-S18-NIC2	R1-SW1-P42
R1-S19-IPMI	R1-SW2-P19	R1-S19-NIC1	R1-SW1-P19	R1-S19-NIC2	R1-SW1-P43
R1-S20-IPMI	R1-SW2-P20	R1-S20-NIC1	R1-SW1-P20	R1-S20-NIC2	R1-SW1-P44
R1-S21-IPMI	R1-SW2-P21	R1-S21-NIC1	R1-SW1-P21	R1-S21-NIC2	R1-SW1-P45
R1-S22-IPMI	R1-SW2-P22	R1-S22-NIC1	R1-SW1-P22	R1-S22-NIC2	R1-SW1-P46
N/A	N/A	N/A	N/A	R1-S23-NIC2	R1-SW1-P47

**Table 4-3: OOB Management Switch Uplink**

From	To
R1-SW2-P48	R1-SW1-P48

## 24 Node Myrinet Expandable to 32 Nodes



## Rack Diagram

Rack 1 (R1)		
42		
41		
40	S33	Expansion
39	S32	Expansion
38	S31	Expansion
37	S30	Expansion
36	S29	Expansion
35	S28	Expansion
34	S27	Expansion
33	S26	Expansion
32	S25	DL145
31	S24	DL145
30	S23	DL380 or DL145
29		
28	S22	DL145
27	S21	DL145
26	S20	DL145
25	S19	DL145
24	S18	DL145
23	S17	DL145
22	SW3	ProCurve 2650
21	SW2	ProCurve 2848
20	TFT5600	
19	S16	DL145
18	S15	DL145
17	S14	DL145
16	S13	DL145
15	S12	DL145
14	S11	DL145
13	S10	DL145
12	S9	DL145
11	S8	DL145
10	S7	DL145
9	S6	DL145
8	S5	DL145
7	S4	DL145
6	S3	DL145
5	S2	DL145
4	S1	DL145
3	SW1 Myricom 5 slot chassis w/Myrinet line cards	
2		
1		

## Point-to-Point Cabling Guide

**Table 5-1: Cable Label Nomenclature**

Symbol	Description
R	Rack number
S	Control/Compute/Storage node number
SW	Out of Band (OOB) Management Switch/Cluster Interconnect Switch/In Band (IB) Management Switch number
M	Module letter or Module number
P	Port number
NIC	NIC port number
IPMI	IPMI port
PCI	Myrinet Adapter (in PCI slot)

**Table 5-2: 24 Node Myrinet Cabling for DL145 LC Clusters Expandable to 32 Nodes**

OOB Switch Cabling		Cluster Interconnect Switch Cabling		IB Management Switch Cabling	
Origin (server)	Destination (switch)	Origin (server)	Destination (switch)	Origin (server)	Destination (switch)
R1-S1-IPMI	R1-SW3-P1	R1-S1-PCI	R1-SW1-M1-P8	R1-S1-NIC2	R1-SW2-P1
R1-S2-IPMI	R1-SW3-P2	R1-S2-PCI	R1-SW1-M1-P9	R1-S2-NIC2	R1-SW2-P2
R1-S3-IPMI	R1-SW3-P3	R1-S3-PCI	R1-SW1-M1-P10	R1-S3-NIC2	R1-SW2-P3
R1-S4-IPMI	R1-SW3-P4	R1-S4-PCI	R1-SW1-M1-P11	R1-S4-NIC2	R1-SW2-P4
R1-S5-IPMI	R1-SW3-P5	R1-S5-PCI	R1-SW1-M1-P12	R1-S5-NIC2	R1-SW2-P5
R1-S6-IPMI	R1-SW3-P6	R1-S6-PCI	R1-SW1-M1-P13	R1-S6-NIC2	R1-SW2-P6
R1-S7-IPMI	R1-SW3-P7	R1-S7-PCI	R1-SW1-M1-P14	R1-S7-NIC2	R1-SW2-P7
R1-S8-IPMI	R1-SW3-P8	R1-S8-PCI	R1-SW1-M1-P15	R1-S8-NIC2	R1-SW2-P8
R1-S9-IPMI	R1-SW3-P9	R1-S9-PCI	R1-SW1-M2-P8	R1-S9-NIC2	R1-SW2-P9
R1-S10-IPMI	R1-SW3-P10	R1-S10-PCI	R1-SW1-M2-P9	R1-S10-NIC2	R1-SW2-P10
R1-S11-IPMI	R1-SW3-P11	R1-S11-PCI	R1-SW1-M2-P10	R1-S11-NIC2	R1-SW2-P11
R1-S12-IPMI	R1-SW3-P12	R1-S12-PCI	R1-SW1-M2-P11	R1-S12-NIC2	R1-SW2-P12
R1-S13-IPMI	R1-SW3-P13	R1-S13-PCI	R1-SW1-M2-P12	R1-S13-NIC2	R1-SW2-P13

*continued*

**Table 5-2: 24 Node Myrinet Cabling for DL145 LC Clusters Expandable to 32 Nodes** *continued*

OOB Switch Cabling		Cluster Interconnect Switch Cabling		IB Management Switch Cabling	
Origin (server)	Destination (switch)	Origin (server)	Destination (switch)	Origin (server)	Destination (switch)
R1-S14-IPMI	R1-SW3-P14	R1-S14-PCI	R1-SW1-M2-P13	R1-S14-NIC2	R1-SW2-P14
R1-S15-IPMI	R1-SW3-P15	R1-S15-PCI	R1-SW1-M2-P14	R1-S15-NIC2	R1-SW2-P15
R1-S16-IPMI	R1-SW3-P16	R1-S16-PCI	R1-SW1-M2-P15	R1-S16-NIC2	R1-SW2-P16
R1-S17-IPMI	R1-SW3-P17	R1-S17-PCI	R1-SW1-M3-P8	R1-S17-NIC2	R1-SW2-P17
R1-S18-IPMI	R1-SW3-P18	R1-S18-PCI	R1-SW1-M3-P9	R1-S18-NIC2	R1-SW2-P18
R1-S19-IPMI	R1-SW3-P19	R1-S19-PCI	R1-SW1-M3-P10	R1-S19-NIC2	R1-SW2-P19
R1-S20-IPMI	R1-SW3-P20	R1-S20-PCI	R1-SW1-M3-P11	R1-S20-NIC2	R1-SW2-P20
R1-S21-IPMI	R1-SW3-P21	R1-S21-PCI	R1-SW1-M3-P12	R1-S21-NIC2	R1-SW2-P21
R1-S22-IPMI	R1-SW3-P22	R1-S22-PCI	R1-SW1-M3-P13	R1-S22-NIC2	R1-SW2-P22
N/A	N/A	N/A	N/A	R1-S23-NIC2	R1-SW2-P23
R1-S24-IPMI	R1-SW3-P24	R1-S24-PCI	R1-SW1-M3-P14	R1-S24-NIC2	R1-SW2-P24
R1-S25-IPMI	R1-SW3-P25	R1-S25-PCI	R1-SW1-M3-P15	R1-S25-NIC2	R1-SW2-P25
R1-S26-IPMI	R1-SW3-P26	R1-S26-PCI	R1-SW1-M4-P8	R1-S26-NIC2	R1-SW2-P26
R1-S27-IPMI	R1-SW3-P27	R1-S27-PCI	R1-SW1-M4-P9	R1-S27-NIC2	R1-SW2-P27
R1-S28-IPMI	R1-SW3-P28	R1-S28-PCI	R1-SW1-M4-P10	R1-S28-NIC2	R1-SW2-P28
R1-S29-IPMI	R1-SW3-P29	R1-S29-PCI	R1-SW1-M4-P11	R1-S29-NIC2	R1-SW2-P29
R1-S30-IPMI	R1-SW3-P30	R1-S30-PCI	R1-SW1-M4-P12	R1-S30-NIC2	R1-SW2-P30
R1-S31-IPMI	R1-SW3-P31	R1-S31-PCI	R1-SW1-M4-P13	R1-S31-NIC2	R1-SW2-P31
R1-S32-IPMI	R1-SW3-P32	R1-S32-PCI	R1-SW1-M4-P14	R1-S32-NIC2	R1-SW2-P32
R1-S33-IPMI	R1-SW3-P33	R1-S33-PCI	R1-SW1-M4-P15	R1-S33-NIC2	R1-SW2-P33

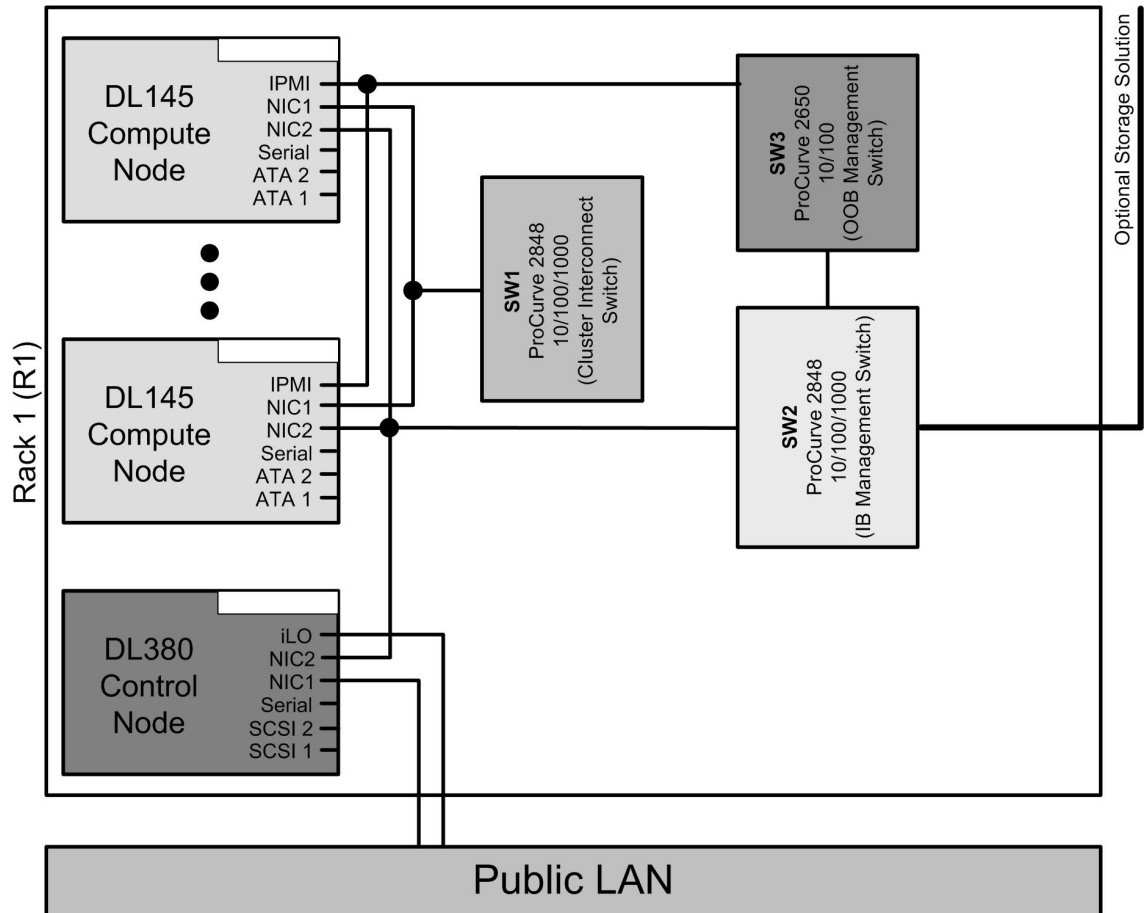
**Table 5-3: Myricom Monitor**

From	To
R1-SW1-M5-P1	R1-SW2-P47

**Table 5-4: OOB Management Switch Uplink**

From	To
R1-SW3-P48	R1-SW2-P48

## 24 Node GigE Expandable to 36 Nodes



## Rack Diagram

Rack 1 (R1)

42	S37	Expansion
41	S36	Expansion
40	S35	Expansion
39	S34	Expansion
38	S33	Expansion
37	S32	Expansion
36	S31	Expansion
35	S30	Expansion
34	S29	Expansion
33	S28	Expansion
32	S27	Expansion
31	S26	Expansion
30	S25	DL380 or DL145
29		
28	S24	DL145
27	S23	DL145
26	S22	DL145
25	S21	DL145
24	S20	DL145
23	S19	DL145
22	SW3	ProCurve 2650
21	SW2	ProCurve 2848
20		TFT5600
19	SW1	ProCurve 2848
18	S18	DL145
17	S17	DL145
16	S16	DL145
15	S15	DL145
14	S14	DL145
13	S13	DL145
12	S12	DL145
11	S11	DL145
10	S10	DL145
9	S9	DL145
8	S8	DL145
7	S7	DL145
6	S6	DL145
5	S5	DL145
4	S4	DL145
3	S3	DL145
2	S2	DL145
1	S1	DL145

## Point-to-Point Cabling Guide

**Table 6-1: Cable Label Nomenclature**

Symbol	Description
R	Rack number
S	Control/Compute/Storage node number
SW	Out of Band (OOB) Management Switch/Cluster Interconnect Switch/In Band (IB) Management Switch number
M	Module letter or Module number
P	Port number
NIC	NIC port number
IPMI	IPMI port

**Table 6-2: 24 Node GigE Cabling for DL145 LC Clusters Expandable to 36 Nodes**

OOB Switch Cabling		Cluster Interconnect Switch Cabling		IB Management Switch Cabling	
Origin (server)	Destination (switch)	Origin (server)	Destination (switch)	Origin (server)	Destination (switch)
R1-S1-IPMI	R1-SW3-P1	R1-S1-NIC1	R1-SW1-P1	R1-S1-NIC2	R1-SW2-P1
R1-S2-IPMI	R1-SW3-P2	R1-S2-NIC1	R1-SW1-P2	R1-S2-NIC2	R1-SW2-P2
R1-S3-IPMI	R1-SW3-P3	R1-S3-NIC1	R1-SW1-P3	R1-S3-NIC2	R1-SW2-P3
R1-S4-IPMI	R1-SW3-P4	R1-S4-NIC1	R1-SW1-P4	R1-S4-NIC2	R1-SW2-P4
R1-S5-IPMI	R1-SW3-P5	R1-S5-NIC1	R1-SW1-P5	R1-S5-NIC2	R1-SW2-P5
R1-S6-IPMI	R1-SW3-P6	R1-S6-NIC1	R1-SW1-P6	R1-S6-NIC2	R1-SW2-P6
R1-S7-IPMI	R1-SW3-P7	R1-S7-NIC1	R1-SW1-P7	R1-S7-NIC2	R1-SW2-P7
R1-S8-IPMI	R1-SW3-P8	R1-S8-NIC1	R1-SW1-P8	R1-S8-NIC2	R1-SW2-P8
R1-S9-IPMI	R1-SW3-P9	R1-S9-NIC1	R1-SW1-P9	R1-S9-NIC2	R1-SW2-P9
R1-S10-IPMI	R1-SW3-P10	R1-S10-NIC1	R1-SW1-P10	R1-S10-NIC2	R1-SW2-P10
R1-S11-IPMI	R1-SW3-P11	R1-S11-NIC1	R1-SW1-P11	R1-S11-NIC2	R1-SW2-P11
R1-S12-IPMI	R1-SW3-P12	R1-S12-NIC1	R1-SW1-P12	R1-S12-NIC2	R1-SW2-P12
R1-S13-IPMI	R1-SW3-P13	R1-S13-NIC1	R1-SW1-P13	R1-S13-NIC2	R1-SW2-P13

*continued*



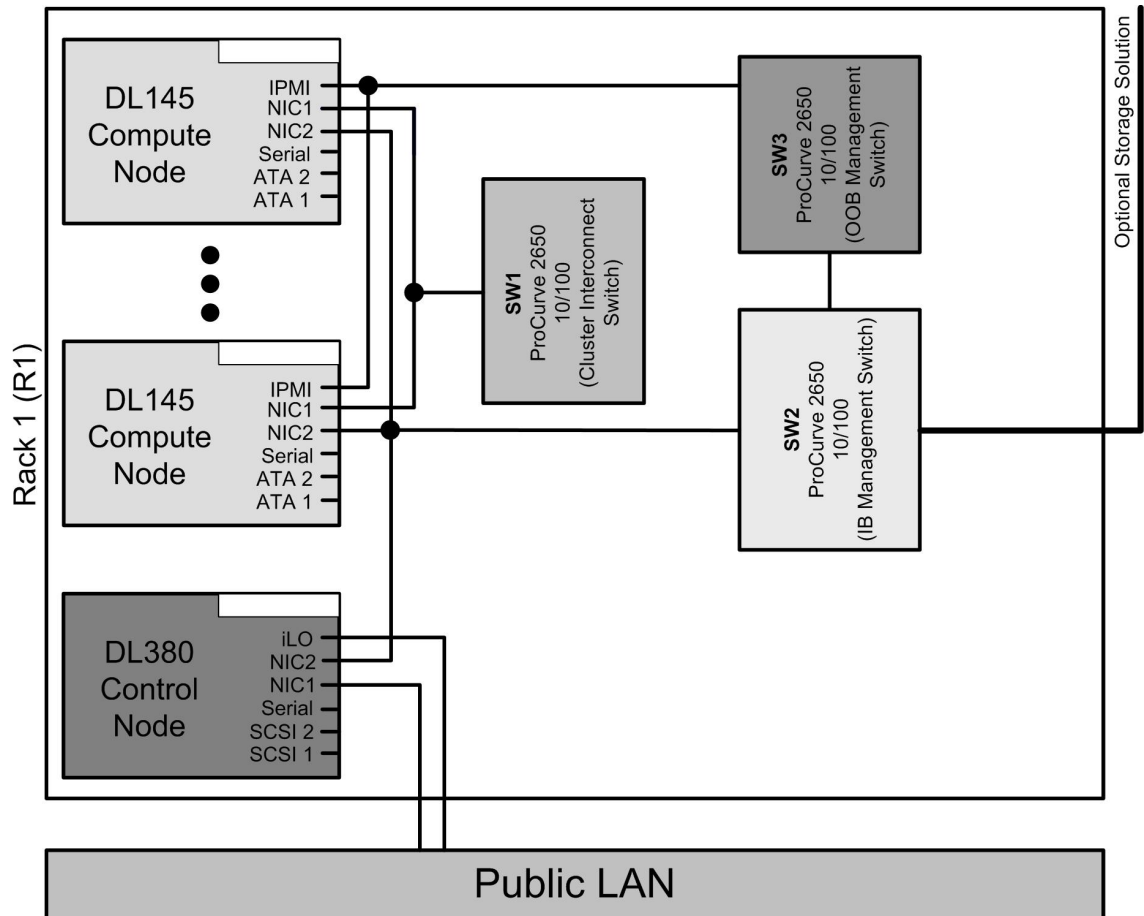
**Table 6-2: 24 Node GigE Cabling for DL145 LC Clusters Expandable to 36 Nodes** *continued*

OOB Switch Cabling		Cluster Interconnect Switch Cabling		IB Management Switch Cabling	
Origin (server)	Destination (switch)	Origin (server)	Destination (switch)	Origin (server)	Destination (switch)
R1-S14-IPMI	R1-SW3-P14	R1-S14-NIC1	R1-SW1-P14	R1-S14-NIC2	R1-SW2-P14
R1-S15-IPMI	R1-SW3-P15	R1-S15-NIC1	R1-SW1-P15	R1-S15-NIC2	R1-SW2-P15
R1-S16-IPMI	R1-SW3-P16	R1-S16-NIC1	R1-SW1-P16	R1-S16-NIC2	R1-SW2-P16
R1-S17-IPMI	R1-SW3-P17	R1-S17-NIC1	R1-SW1-P17	R1-S17-NIC2	R1-SW2-P17
R1-S18-IPMI	R1-SW3-P18	R1-S18-NIC1	R1-SW1-P18	R1-S18-NIC2	R1-SW2-P18
R1-S19-IPMI	R1-SW3-P19	R1-S19-NIC1	R1-SW1-P19	R1-S19-NIC2	R1-SW2-P19
R1-S20-IPMI	R1-SW3-P20	R1-S20-NIC1	R1-SW1-P20	R1-S20-NIC2	R1-SW2-P20
R1-S21-IPMI	R1-SW3-P21	R1-S21-NIC1	R1-SW1-P21	R1-S21-NIC2	R1-SW2-P21
R1-S22-IPMI	R1-SW3-P22	R1-S22-NIC1	R1-SW1-P22	R1-S22-NIC2	R1-SW2-P22
R1-S23-IPMI	R1-SW3-P23	R1-S23-NIC1	R1-SW1-P23	R1-S23-NIC2	R1-SW2-P23
R1-S24-IPMI	R1-SW3-P24	R1-S24-NIC1	R1-SW1-P24	R1-S24-NIC2	R1-SW2-P24
N/A	N/A	N/A	N/A	R1-S25-NIC2	R1-SW2-P25
R1-S26-IPMI	R1-SW3-P26	R1-S26-NIC1	R1-SW1-P25	R1-S26-NIC2	R1-SW2-P26
R1-S27-IPMI	R1-SW3-P27	R1-S27-NIC1	R1-SW1-P26	R1-S27-NIC2	R1-SW2-P27
R1-S28-IPMI	R1-SW3-P28	R1-S28-NIC1	R1-SW1-P27	R1-S28-NIC2	R1-SW2-P28
R1-S29-IPMI	R1-SW3-P29	R1-S29-NIC1	R1-SW1-P28	R1-S29-NIC2	R1-SW2-P29
R1-S30-IPMI	R1-SW3-P30	R1-S30-NIC1	R1-SW1-P29	R1-S30-NIC2	R1-SW2-P30
R1-S31-IPMI	R1-SW3-P31	R1-S31-NIC1	R1-SW1-P30	R1-S31-NIC2	R1-SW2-P31
R1-S32-IPMI	R1-SW3-P32	R1-S32-NIC1	R1-SW1-P31	R1-S32-NIC2	R1-SW2-P32
R1-S33-IPMI	R1-SW3-P33	R1-S33-NIC1	R1-SW1-P32	R1-S33-NIC2	R1-SW2-P33
R1-S34-IPMI	R1-SW3-P34	R1-S34-NIC1	R1-SW1-P33	R1-S34-NIC2	R1-SW2-P34
R1-S35-IPMI	R1-SW3-P35	R1-S35-NIC1	R1-SW1-P34	R1-S35-NIC2	R1-SW2-P35
R1-S36-IPMI	R1-SW3-P36	R1-S36-NIC1	R1-SW1-P35	R1-S36-NIC2	R1-SW2-P36
R1-S37-IPMI	R1-SW3-P37	R1-S37-NIC1	R1-SW1-P36	R1-S37-NIC2	R1-SW2-P37

**Table 6-3: OOB Management Switch Uplink**

From	To
R1-SW3-P48	R1-SW2-P48

## 24 Node Fast Ethernet Expandable to 36 Nodes



## Rack Diagram

Rack 1 (R1)		
42	S37	Expansion
41	S36	Expansion
40	S35	Expansion
39	S34	Expansion
38	S33	Expansion
37	S32	Expansion
36	S31	Expansion
35	S30	Expansion
34	S29	Expansion
33	S28	Expansion
32	S27	Expansion
31	S26	Expansion
30	S25	DL380 or DL145
29		
28	S24	DL145
27	S23	DL145
26	S22	DL145
25	S21	DL145
24	S20	DL145
23	S19	DL145
22	SW3	ProCurve 2650
21	SW2	ProCurve 2650
20	TFT5600	
19	SW1	ProCurve 2650
18	S18	DL145
17	S17	DL145
16	S16	DL145
15	S15	DL145
14	S14	DL145
13	S13	DL145
12	S12	DL145
11	S11	DL145
10	S10	DL145
9	S9	DL145
8	S8	DL145
7	S7	DL145
6	S6	DL145
5	S5	DL145
4	S4	DL145
3	S3	DL145
2	S2	DL145
1	S1	DL145

## Point-to-Point Cabling Guide

Table 7-1: Cable Label Nomenclature	
Symbol	Description
R	Rack number
S	Control/Compute/Storage node number
SW	Out of Band (OOB) Management Switch/Cluster Interconnect Switch/In Band (IB) Management Switch number
M	Module letter or Module number
P	Port number
NIC	NIC port number
IPMI	IPMI port

Table 7-2: 24 Node Fast Ethernet Cabling for DL145 LC Clusters Expandable to 36 Nodes					
OOB Switch Cabling		Cluster Interconnect Switch Cabling		IB Management Switch Cabling	
Origin (server)	Destination (switch)	Origin (server)	Destination (switch)	Origin (server)	Destination (switch)
R1-S1-IPMI	R1-SW3-P1	R1-S1-NIC1	R1-SW1-P1	R1-S1-NIC2	R1-SW2-P1
R1-S2-IPMI	R1-SW3-P2	R1-S2-NIC1	R1-SW1-P2	R1-S2-NIC2	R1-SW2-P2
R1-S3-IPMI	R1-SW3-P3	R1-S3-NIC1	R1-SW1-P3	R1-S3-NIC2	R1-SW2-P3
R1-S4-IPMI	R1-SW3-P4	R1-S4-NIC1	R1-SW1-P4	R1-S4-NIC2	R1-SW2-P4
R1-S5-IPMI	R1-SW3-P5	R1-S5-NIC1	R1-SW1-P5	R1-S5-NIC2	R1-SW2-P5
R1-S6-IPMI	R1-SW3-P6	R1-S6-NIC1	R1-SW1-P6	R1-S6-NIC2	R1-SW2-P6
R1-S7-IPMI	R1-SW3-P7	R1-S7-NIC1	R1-SW1-P7	R1-S7-NIC2	R1-SW2-P7
R1-S8-IPMI	R1-SW3-P8	R1-S8-NIC1	R1-SW1-P8	R1-S8-NIC2	R1-SW2-P8
R1-S9-IPMI	R1-SW3-P9	R1-S9-NIC1	R1-SW1-P9	R1-S9-NIC2	R1-SW2-P9
R1-S10-IPMI	R1-SW3-P10	R1-S10-NIC1	R1-SW1-P10	R1-S10-NIC2	R1-SW2-P10
R1-S11-IPMI	R1-SW3-P11	R1-S11-NIC1	R1-SW1-P11	R1-S11-NIC2	R1-SW2-P11
R1-S12-IPMI	R1-SW3-P12	R1-S12-NIC1	R1-SW1-P12	R1-S12-NIC2	R1-SW2-P12
R1-S13-IPMI	R1-SW3-P13	R1-S13-NIC1	R1-SW1-P13	R1-S13-NIC2	R1-SW2-P13

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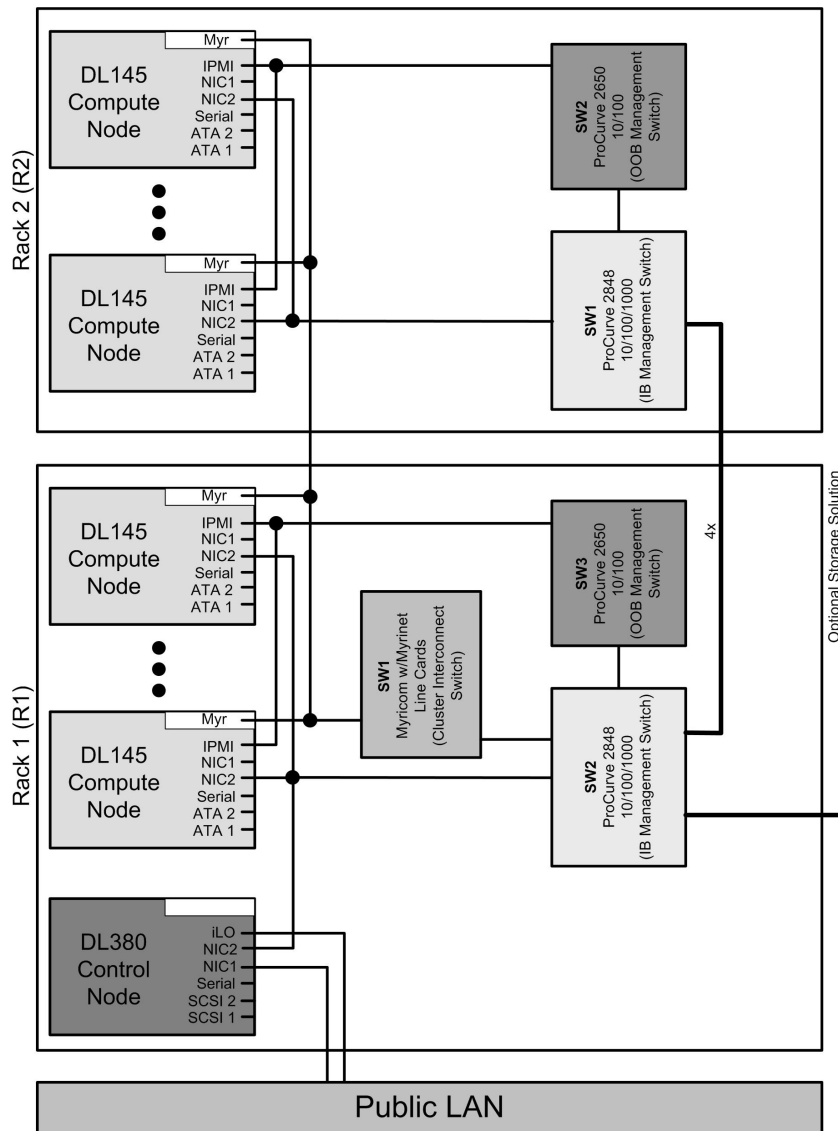
**Table 7-2: 24 Node Fast Ethernet Cabling for DL145 LC Clusters Expandable to 36 Nodes***continued*

OOB Switch Cabling		Cluster Interconnect Switch Cabling		IB Management Switch Cabling	
Origin (server)	Destination (switch)	Origin (server)	Destination (switch)	Origin (server)	Destination (switch)
R1-S14-IPMI	R1-SW3-P14	R1-S14-NIC1	R1-SW1-P14	R1-S14-NIC2	R1-SW2-P14
R1-S15-IPMI	R1-SW3-P15	R1-S15-NIC1	R1-SW1-P15	R1-S15-NIC2	R1-SW2-P15
R1-S16-IPMI	R1-SW3-P16	R1-S16-NIC1	R1-SW1-P16	R1-S16-NIC2	R1-SW2-P16
R1-S17-IPMI	R1-SW3-P17	R1-S17-NIC1	R1-SW1-P17	R1-S17-NIC2	R1-SW2-P17
R1-S18-IPMI	R1-SW3-P18	R1-S18-NIC1	R1-SW1-P18	R1-S18-NIC2	R1-SW2-P18
R1-S19-IPMI	R1-SW3-P19	R1-S19-NIC1	R1-SW1-P19	R1-S19-NIC2	R1-SW2-P19
R1-S20-IPMI	R1-SW3-P20	R1-S20-NIC1	R1-SW1-P20	R1-S20-NIC2	R1-SW2-P20
R1-S21-IPMI	R1-SW3-P21	R1-S21-NIC1	R1-SW1-P21	R1-S21-NIC2	R1-SW2-P21
R1-S22-IPMI	R1-SW3-P22	R1-S22-NIC1	R1-SW1-P22	R1-S22-NIC2	R1-SW2-P22
R1-S23-IPMI	R1-SW3-P23	R1-S23-NIC1	R1-SW1-P23	R1-S23-NIC2	R1-SW2-P23
R1-S24-IPMI	R1-SW3-P24	R1-S24-NIC1	R1-SW1-P24	R1-S24-NIC2	R1-SW2-P24
N/A	N/A	N/A	N/A	R1-S25-NIC2	R1-SW2-P25
R1-S26-IPMI	R1-SW3-P26	R1-S26-NIC1	R1-SW1-P25	R1-S26-NIC2	R1-SW2-P26
R1-S27-IPMI	R1-SW3-P27	R1-S27-NIC1	R1-SW1-P26	R1-S27-NIC2	R1-SW2-P27
R1-S28-IPMI	R1-SW3-P28	R1-S28-NIC1	R1-SW1-P27	R1-S28-NIC2	R1-SW2-P28
R1-S29-IPMI	R1-SW3-P29	R1-S29-NIC1	R1-SW1-P28	R1-S29-NIC2	R1-SW2-P29
R1-S30-IPMI	R1-SW3-P30	R1-S30-NIC1	R1-SW1-P29	R1-S30-NIC2	R1-SW2-P30
R1-S31-IPMI	R1-SW3-P31	R1-S31-NIC1	R1-SW1-P30	R1-S31-NIC2	R1-SW2-P31
R1-S32-IPMI	R1-SW3-P32	R1-S32-NIC1	R1-SW1-P31	R1-S32-NIC2	R1-SW2-P32
R1-S33-IPMI	R1-SW3-P33	R1-S33-NIC1	R1-SW1-P32	R1-S33-NIC2	R1-SW2-P33
R1-S34-IPMI	R1-SW3-P34	R1-S34-NIC1	R1-SW1-P33	R1-S34-NIC2	R1-SW2-P34
R1-S35-IPMI	R1-SW3-P35	R1-S35-NIC1	R1-SW1-P34	R1-S35-NIC2	R1-SW2-P35
R1-S36-IPMI	R1-SW3-P36	R1-S36-NIC1	R1-SW1-P35	R1-S36-NIC2	R1-SW2-P36
R1-S37-IPMI	R1-SW3-P37	R1-S37-NIC1	R1-SW1-P36	R1-S37-NIC2	R1-SW2-P37

**Table 7-3: OOB Management Switch Uplink**

From	To
R1-SW3-P48	R1-SW2-P48

## 32 Node Myrinet Expandable to 64 Nodes



## Rack Diagram

Rack 1 (R1)			Rack 2 (R2)		
42	S33	DL145			
41	S32	DL145			
40	S31	DL145			
39	S30	DL145			
38	S29	DL145			
37	S28	DL145			
36	S27	DL145			
35	S26	DL145			
34	S25	DL145	S32	Expansion	
33	S24	DL145	S31	Expansion	
32	S23	DL145	S30	Expansion	
31	S22	DL145	S29	Expansion	
30	S21	DL380 or DL145	S28	Expansion	
29			S27	Expansion	
28	S20	DL145	S26	Expansion	
27	S19	DL145	S25	Expansion	
26	S18	DL145	S24	Expansion	
25	S17	DL145	S23	Expansion	
24	S16	DL145	S22	Expansion	
23	S15	DL145	S21	Expansion	
22	SW3	ProCurve 2650	SW2	Expansion	
21	SW2	ProCurve 2848	SW1	Expansion	
20		TFT5600	S20	Expansion	
19	S14	DL145	S19	Expansion	
18	S13	DL145	S18	Expansion	
17	S12	DL145	S17	Expansion	
16	S11	DL145	S16	Expansion	
15	S10	DL145	S15	Expansion	
14	S9	DL145	S14	Expansion	
13	S8	DL145	S13	Expansion	
12	S7	DL145	S12	Expansion	
11	S6	DL145	S11	Expansion	
10	S5	DL145	S10	Expansion	
9	S4	DL145	S9	Expansion	
8	S3	DL145	S8	Expansion	
7	S2	DL145	S7	Expansion	
6	S1	DL145	S6	Expansion	
5			S5	Expansion	
4			S4	Expansion	
3	SW1	Myricom 9 slot chassis w/Myrinet line cards	S3	Expansion	
2			S2	Expansion	
1			S1	Expansion	

## Point-to-Point Cabling Guide

**Table 8-1: Cable Label Nomenclature**

Symbol	Description
R	Rack number
S	Control/Compute/Storage node number
SW	Out of Band (OOB) Management Switch/Cluster Interconnect Switch/In Band (IB) Management Switch number
M	Module letter or Module number
P	Port number
NIC	NIC port number
IPMI	IPMI port
PCI	Myrinet Adapter (in PCI slot)

**Table 8-2: 32 Node Myrinet Cabling for DL145 LC Clusters Expandable to 64 Nodes**

OOB Switch Cabling		Cluster Interconnect Switch Cabling		IB Management Switch Cabling	
Origin (server)	Destination (switch)	Origin (server)	Destination (switch)	Origin (server)	Destination (switch)
R1-S1-IPMI	R1-SW3-P1	R1-S1-PCI	R1-SW1-M1-P8	R1-S1-NIC2	R1-SW2-P1
R1-S2-IPMI	R1-SW3-P2	R1-S2-PCI	R1-SW1-M1-P9	R1-S2-NIC2	R1-SW2-P2
R1-S3-IPMI	R1-SW3-P3	R1-S3-PCI	R1-SW1-M1-P10	R1-S3-NIC2	R1-SW2-P3
R1-S4-IPMI	R1-SW3-P4	R1-S4-PCI	R1-SW1-M1-P11	R1-S4-NIC2	R1-SW2-P4
R1-S5-IPMI	R1-SW3-P5	R1-S5-PCI	R1-SW1-M1-P12	R1-S5-NIC2	R1-SW2-P5
R1-S6-IPMI	R1-SW3-P6	R1-S6-PCI	R1-SW1-M1-P13	R1-S6-NIC2	R1-SW2-P6
R1-S7-IPMI	R1-SW3-P7	R1-S7-PCI	R1-SW1-M1-P14	R1-S7-NIC2	R1-SW2-P7
R1-S8-IPMI	R1-SW3-P8	R1-S8-PCI	R1-SW1-M1-P15	R1-S8-NIC2	R1-SW2-P8
R1-S9-IPMI	R1-SW3-P9	R1-S9-PCI	R1-SW1-M2-P8	R1-S9-NIC2	R1-SW2-P9
R1-S10-IPMI	R1-SW3-P10	R1-S10-PCI	R1-SW1-M2-P9	R1-S10-NIC2	R1-SW2-P10
R1-S11-IPMI	R1-SW3-P11	R1-S11-PCI	R1-SW1-M2-P10	R1-S11-NIC2	R1-SW2-P11
R1-S12-IPMI	R1-SW3-P12	R1-S12-PCI	R1-SW1-M2-P11	R1-S12-NIC2	R1-SW2-P12
R1-S13-IPMI	R1-SW3-P13	R1-S13-PCI	R1-SW1-M2-P12	R1-S13-NIC2	R1-SW2-P13

*continued*



**Table 8-2: 32 Node Myrinet Cabling for DL145 LC Clusters Expandable to 64 Nodes** *continued*

OOB Switch Cabling		Cluster Interconnect Switch Cabling		IB Management Switch Cabling	
Origin (server)	Destination (switch)	Origin (server)	Destination (switch)	Origin (server)	Destination (switch)
R1-S14-IPMI	R1-SW3-P14	R1-S14-PCI	R1-SW1-M2-P13	R1-S14-NIC2	R1-SW2-P14
R1-S15-IPMI	R1-SW3-P15	R1-S15-PCI	R1-SW1-M2-P14	R1-S15-NIC2	R1-SW2-P15
R1-S16-IPMI	R1-SW3-P16	R1-S16-PCI	R1-SW1-M2-P15	R1-S16-NIC2	R1-SW2-P16
R1-S17-IPMI	R1-SW3-P17	R1-S17-PCI	R1-SW1-M3-P8	R1-S17-NIC2	R1-SW2-P17
R1-S18-IPMI	R1-SW3-P18	R1-S18-PCI	R1-SW1-M3-P9	R1-S18-NIC2	R1-SW2-P18
R1-S19-IPMI	R1-SW3-P19	R1-S19-PCI	R1-SW1-M3-P10	R1-S19-NIC2	R1-SW2-P19
R1-S20-IPMI	R1-SW3-P20	R1-S20-PCI	R1-SW1-M3-P11	R1-S20-NIC2	R1-SW2-P20
N/A	N/A	N/A	N/A	R1-S21-NIC2	R1-SW2-P21
R1-S22-IPMI	R1-SW3-P22	R1-S22-PCI	R1-SW1-M3-P12	R1-S22-NIC2	R1-SW2-P22
R1-S23-IPMI	R1-SW3-P23	R1-S23-PCI	R1-SW1-M3-P13	R1-S23-NIC2	R1-SW2-P23
R1-S24-IPMI	R1-SW3-P24	R1-S24-PCI	R1-SW1-M3-P14	R1-S24-NIC2	R1-SW2-P24
R1-S25-IPMI	R1-SW3-P25	R1-S25-PCI	R1-SW1-M3-P15	R1-S25-NIC2	R1-SW2-P25
R1-S26-IPMI	R1-SW3-P26	R1-S26-PCI	R1-SW1-M4-P8	R1-S26-NIC2	R1-SW2-P26
R1-S27-IPMI	R1-SW3-P27	R1-S27-PCI	R1-SW1-M4-P9	R1-S27-NIC2	R1-SW2-P27
R1-S28-IPMI	R1-SW3-P28	R1-S28-PCI	R1-SW1-M4-P10	R1-S28-NIC2	R1-SW2-P28
R1-S29-IPMI	R1-SW3-P29	R1-S29-PCI	R1-SW1-M4-P11	R1-S29-NIC2	R1-SW2-P29
R1-S30-IPMI	R1-SW3-P30	R1-S30-PCI	R1-SW1-M4-P12	R1-S30-NIC2	R1-SW2-P30
R1-S31-IPMI	R1-SW3-P31	R1-S31-PCI	R1-SW1-M4-P13	R1-S31-NIC2	R1-SW2-P31
R1-S32-IPMI	R1-SW3-P32	R1-S32-PCI	R1-SW1-M4-P14	R1-S32-NIC2	R1-SW2-P32
R1-S33-IPMI	R1-SW3-P33	R1-S33-PCI	R1-SW1-M4-P15	R1-S33-NIC2	R1-SW2-P33
R2-S1-IPMI	R2-SW2-P1	R2-S1-PCI	R1-SW1-M5-P8	R2-S1-NIC2	R2-SW1-P1
R2-S2-IPMI	R2-SW2-P2	R2-S2-PCI	R1-SW1-M5-P9	R2-S2-NIC2	R2-SW1-P2
R2-S3-IPMI	R2-SW2-P3	R2-S3-PCI	R1-SW1-M5-P10	R2-S3-NIC2	R2-SW1-P3
R2-S4-IPMI	R2-SW2-P4	R2-S4-PCI	R1-SW1-M5-P11	R2-S4-NIC2	R2-SW1-P4
R2-S5-IPMI	R2-SW2-P5	R2-S5-PCI	R1-SW1-M5-P12	R2-S5-NIC2	R2-SW1-P5
R2-S6-IPMI	R2-SW2-P6	R2-S6-PCI	R1-SW1-M5-P13	R2-S6-NIC2	R2-SW1-P6
R2-S7-IPMI	R2-SW2-P7	R2-S7-PCI	R1-SW1-M5-P14	R2-S7-NIC2	R2-SW1-P7
R2-S8-IPMI	R2-SW2-P8	R2-S8-PCI	R1-SW1-M5-P15	R2-S8-NIC2	R2-SW1-P8
R2-S9-IPMI	R2-SW2-P9	R2-S9-PCI	R1-SW1-M6-P8	R2-S9-NIC2	R2-SW1-P9
R2-S10-IPMI	R2-SW2-P10	R2-S10-PCI	R1-SW1-M6-P9	R2-S10-NIC2	R2-SW1-P10

*continued*

**Table 8-2: 32 Node Myrinet Cabling for DL145 LC Clusters Expandable to 64 Nodes** *continued*

OOB Switch Cabling		Cluster Interconnect Switch Cabling		IB Management Switch Cabling	
Origin (server)	Destination (switch)	Origin (server)	Destination (switch)	Origin (server)	Destination (switch)
R2-S11-IPMI	R2-SW2-P11	R2-S11-PCI	R1-SW1-M6-P10	R2-S11-NIC2	R2-SW1-P11
R2-S12-IPMI	R2-SW2-P12	R2-S12-PCI	R1-SW1-M6-P11	R2-S12-NIC2	R2-SW1-P12
R2-S13-IPMI	R2-SW2-P13	R2-S13-PCI	R1-SW1-M6-P12	R2-S13-NIC2	R2-SW1-P13
R2-S14-IPMI	R2-SW2-P14	R2-S14-PCI	R1-SW1-M6-P13	R2-S14-NIC2	R2-SW1-P14
R2-S15-IPMI	R2-SW2-P15	R2-S15-PCI	R1-SW1-M6-P14	R2-S15-NIC2	R2-SW1-P15
R2-S16-IPMI	R2-SW2-P16	R2-S16-PCI	R1-SW1-M6-P15	R2-S16-NIC2	R2-SW1-P16
R2-S17-IPMI	R2-SW2-P17	R2-S17-PCI	R1-SW1-M7-P8	R2-S17-NIC2	R2-SW1-P17
R2-S18-IPMI	R2-SW2-P18	R2-S18-PCI	R1-SW1-M7-P9	R2-S18-NIC2	R2-SW1-P18
R2-S19-IPMI	R2-SW2-P19	R2-S19-PCI	R1-SW1-M7-P10	R2-S19-NIC2	R2-SW1-P19
R2-S20-IPMI	R2-SW2-P20	R2-S20-PCI	R1-SW1-M7-P11	R2-S20-NIC2	R2-SW1-P20
R2-S21-IPMI	R2-SW2-P21	R2-S21-PCI	R1-SW1-M7-P12	R2-S21-NIC2	R2-SW1-P21
R2-S22-IPMI	R2-SW2-P22	R2-S22-PCI	R1-SW1-M7-P13	R2-S22-NIC2	R2-SW1-P22
R2-S23-IPMI	R2-SW2-P23	R2-S23-PCI	R1-SW1-M7-P14	R2-S23-NIC2	R2-SW1-P23
R2-S24-IPMI	R2-SW2-P24	R2-S24-PCI	R1-SW1-M7-P15	R2-S24-NIC2	R2-SW1-P24
R2-S25-IPMI	R2-SW2-P25	R2-S25-PCI	R1-SW1-M8-P8	R2-S25-NIC2	R2-SW1-P25
R2-S26-IPMI	R2-SW2-P26	R2-S26-PCI	R1-SW1-M8-P9	R2-S26-NIC2	R2-SW1-P26
R2-S27-IPMI	R2-SW2-P27	R2-S27-PCI	R1-SW1-M8-P10	R2-S27-NIC2	R2-SW1-P27
R2-S28-IPMI	R2-SW2-P28	R2-S28-PCI	R1-SW1-M8-P11	R2-S28-NIC2	R2-SW1-P28
R2-S29-IPMI	R2-SW2-P29	R2-S29-PCI	R1-SW1-M8-P12	R2-S29-NIC2	R2-SW1-P29
R2-S30-IPMI	R2-SW2-P30	R2-S30-PCI	R1-SW1-M8-P13	R2-S30-NIC2	R2-SW1-P30
R2-S31-IPMI	R2-SW2-P31	R2-S31-PCI	R1-SW1-M8-P14	R2-S31-NIC2	R2-SW1-P31
R2-S32-IPMI	R2-SW2-P32	R2-S32-PCI	R1-SW1-M8-P15	R2-S32-NIC2	R2-SW1-P32

**Table 8-3: Myricom Monitor**

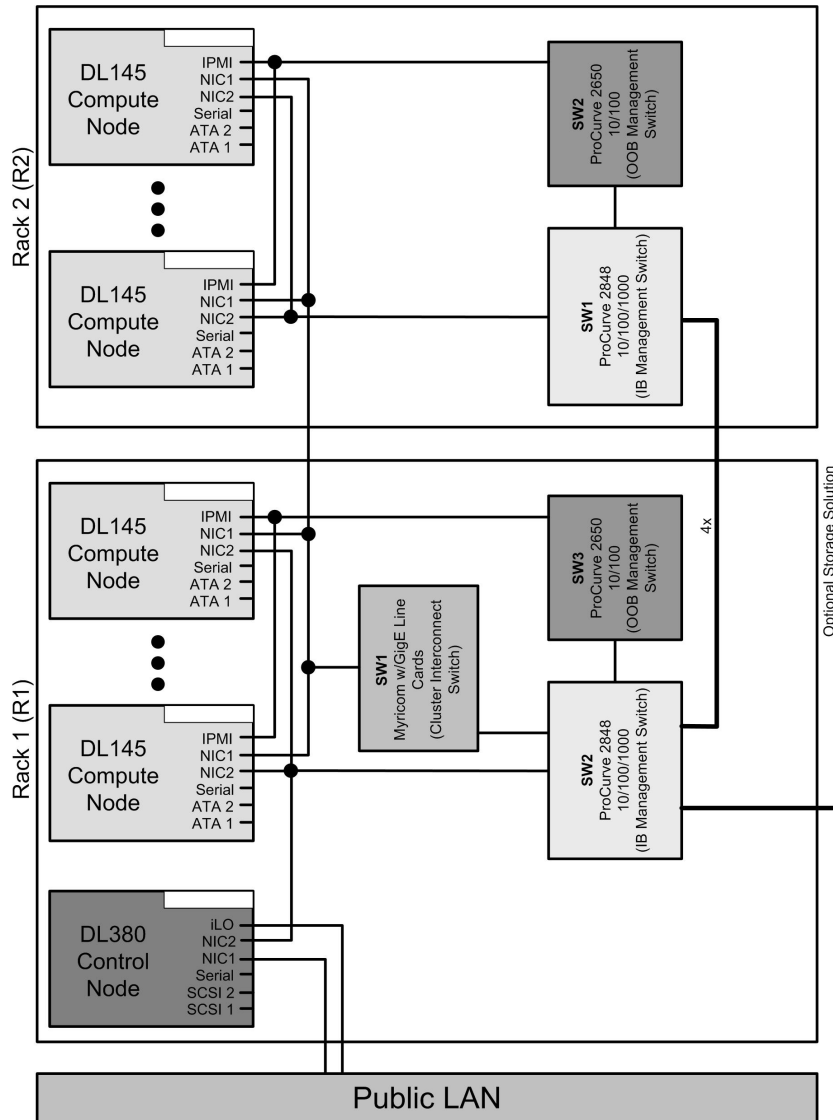
From	To
R1-SW1-M9-P1	R1-SW2-P47

**Table 8-4: OOB Management Switch Uplink**

From	To
R1-SW3-P48	R1-SW2-P48
R2-SW2-P48	R2-SW1-P48

Table 8-5: IB Management Switch Uplink		
From	To	
R1-SW2-P46	R2-SW1-P47	Trunked together
R1-SW2-P45	R2-SW1-P46	
R1-SW2-P44	R2-SW1-P45	
R1-SW2-P43	R2-SW1-P44	

## 32 Node GigE Expandable to 64 Nodes



## Rack Diagram

Rack 1 (R1)			Rack 2 (R2)		
42	S33	DL145			
41	S32	DL145			
40	S31	DL145			
39	S30	DL145			
38	S29	DL145			
37	S28	DL145			
36	S27	DL145			
35	S26	DL145			
34	S25	DL145	S32	Expansion	
33	S24	DL145	S31	Expansion	
32	S23	DL145	S30	Expansion	
31	S22	DL145	S29	Expansion	
30	S21	DL380 or DL145	S28	Expansion	
29			S27	Expansion	
28	S20	DL145	S26	Expansion	
27	S19	DL145	S25	Expansion	
26	S18	DL145	S24	Expansion	
25	S17	DL145	S23	Expansion	
24	S16	DL145	S22	Expansion	
23	S15	DL145	S21	Expansion	
22	SW3	ProCurve 2650	SW2	Expansion	
21	SW2	ProCurve 2848	SW1	Expansion	
20	TFT5600		S20	Expansion	
19	S14	DL145	S19	Expansion	
18	S13	DL145	S18	Expansion	
17	S12	DL145	S17	Expansion	
16	S11	DL145	S16	Expansion	
15	S10	DL145	S15	Expansion	
14	S9	DL145	S14	Expansion	
13	S8	DL145	S13	Expansion	
12	S7	DL145	S12	Expansion	
11	S6	DL145	S11	Expansion	
10	S5	DL145	S10	Expansion	
9	S4	DL145	S9	Expansion	
8	S3	DL145	S8	Expansion	
7	S2	DL145	S7	Expansion	
6	S1	DL145	S6	Expansion	
5	SW1 Myricom 9 slot chassis w/GigE line cards		S5	Expansion	
4			S4	Expansion	
3			S3	Expansion	
2			S2	Expansion	
1			S1	Expansion	

## Point-to-Point Cabling Guide

**Table 9-1: Cable Label Nomenclature**

Symbol	Description
R	Rack number
S	Control/Compute/Storage node number
SW	Out of Band (OOB) Management Switch/Cluster Interconnect Switch/In Band (IB) Management Switch number
M	Module letter or Module number
P	Port number
NIC	NIC port number
IPMI	IPMI port

**Table 9-2: 32 Node GigE Cabling for DL145 LC Clusters Expandable to 64 Nodes**

OOB Switch Cabling		Cluster Interconnect Switch Cabling		IB Management Switch Cabling	
Origin (server)	Destination (switch)	Origin (server)	Destination (switch)	Origin (server)	Destination (switch)
R1-S1-IPMI	R1-SW3-P1	R1-S1-NIC1	R1-SW1-M1-P8	R1-S1-NIC2	R1-SW2-P1
R1-S2-IPMI	R1-SW3-P2	R1-S2-NIC1	R1-SW1-M1-P9	R1-S2-NIC2	R1-SW2-P2
R1-S3-IPMI	R1-SW3-P3	R1-S3-NIC1	R1-SW1-M1-P10	R1-S3-NIC2	R1-SW2-P3
R1-S4-IPMI	R1-SW3-P4	R1-S4-NIC1	R1-SW1-M1-P11	R1-S4-NIC2	R1-SW2-P4
R1-S5-IPMI	R1-SW3-P5	R1-S5-NIC1	R1-SW1-M1-P12	R1-S5-NIC2	R1-SW2-P5
R1-S6-IPMI	R1-SW3-P6	R1-S6-NIC1	R1-SW1-M1-P13	R1-S6-NIC2	R1-SW2-P6
R1-S7-IPMI	R1-SW3-P7	R1-S7-NIC1	R1-SW1-M1-P14	R1-S7-NIC2	R1-SW2-P7
R1-S8-IPMI	R1-SW3-P8	R1-S8-NIC1	R1-SW1-M1-P15	R1-S8-NIC2	R1-SW2-P8
R1-S9-IPMI	R1-SW3-P9	R1-S9-NIC1	R1-SW1-M2-P8	R1-S9-NIC2	R1-SW2-P9
R1-S10-IPMI	R1-SW3-P10	R1-S10-NIC1	R1-SW1-M2-P9	R1-S10-NIC2	R1-SW2-P10
R1-S11-IPMI	R1-SW3-P11	R1-S11-NIC1	R1-SW1-M2-P10	R1-S11-NIC2	R1-SW2-P11
R1-S12-IPMI	R1-SW3-P12	R1-S12-NIC1	R1-SW1-M2-P11	R1-S12-NIC2	R1-SW2-P12
R1-S13-IPMI	R1-SW3-P13	R1-S13-NIC1	R1-SW1-M2-P12	R1-S13-NIC2	R1-SW2-P13

*continued*

**Table 9-2: 32 Node GigE Cabling for DL145 LC Clusters Expandable to 64 Nodes** *continued*

OOB Switch Cabling		Cluster Interconnect Switch Cabling		IB Management Switch Cabling	
Origin (server)	Destination (switch)	Origin (server)	Destination (switch)	Origin (server)	Destination (switch)
R1-S14-IPMI	R1-SW3-P14	R1-S14-NIC1	R1-SW1-M2-P13	R1-S14-NIC2	R1-SW2-P14
R1-S15-IPMI	R1-SW3-P15	R1-S15-NIC1	R1-SW1-M2-P14	R1-S15-NIC2	R1-SW2-P15
R1-S16-IPMI	R1-SW3-P16	R1-S16-NIC1	R1-SW1-M2-P15	R1-S16-NIC2	R1-SW2-P16
R1-S17-IPMI	R1-SW3-P17	R1-S17-NIC1	R1-SW1-M3-P8	R1-S17-NIC2	R1-SW2-P17
R1-S18-IPMI	R1-SW3-P18	R1-S18-NIC1	R1-SW1-M3-P9	R1-S18-NIC2	R1-SW2-P18
R1-S19-IPMI	R1-SW3-P19	R1-S19-NIC1	R1-SW1-M3-P10	R1-S19-NIC2	R1-SW2-P19
R1-S20-IPMI	R1-SW3-P20	R1-S20-NIC1	R1-SW1-M3-P11	R1-S20-NIC2	R1-SW2-P20
N/A	N/A	N/A	N/A	R1-S21-NIC2	R1-SW2-P21
R1-S22-IPMI	R1-SW3-P22	R1-S22-NIC1	R1-SW1-M3-P12	R1-S22-NIC2	R1-SW2-P22
R1-S23-IPMI	R1-SW3-P23	R1-S23-NIC1	R1-SW1-M3-P13	R1-S23-NIC2	R1-SW2-P23
R1-S24-IPMI	R1-SW3-P24	R1-S24-NIC1	R1-SW1-M3-P14	R1-S24-NIC2	R1-SW2-P24
R1-S25-IPMI	R1-SW3-P25	R1-S25-NIC1	R1-SW1-M3-P15	R1-S25-NIC2	R1-SW2-P25
R1-S26-IPMI	R1-SW3-P26	R1-S26-NIC1	R1-SW1-M4-P8	R1-S26-NIC2	R1-SW2-P26
R1-S27-IPMI	R1-SW3-P27	R1-S27-NIC1	R1-SW1-M4-P9	R1-S27-NIC2	R1-SW2-P27
R1-S28-IPMI	R1-SW3-P28	R1-S28-NIC1	R1-SW1-M4-P10	R1-S28-NIC2	R1-SW2-P28
R1-S29-IPMI	R1-SW3-P29	R1-S29-NIC1	R1-SW1-M4-P11	R1-S29-NIC2	R1-SW2-P29
R1-S30-IPMI	R1-SW3-P30	R1-S30-NIC1	R1-SW1-M4-P12	R1-S30-NIC2	R1-SW2-P30
R1-S31-IPMI	R1-SW3-P31	R1-S31-NIC1	R1-SW1-M4-P13	R1-S31-NIC2	R1-SW2-P31
R1-S32-IPMI	R1-SW3-P32	R1-S32-NIC1	R1-SW1-M4-P14	R1-S32-NIC2	R1-SW2-P32
R1-S33-IPMI	R1-SW3-P33	R1-S33-NIC1	R1-SW1-M4-P15	R1-S33-NIC2	R1-SW2-P33
R2-S1-IPMI	R2-SW2-P1	R2-S1-NIC1	R1-SW1-M5-P8	R2-S1-NIC2	R2-SW1-P1
R2-S2-IPMI	R2-SW2-P2	R2-S2-NIC1	R1-SW1-M5-P9	R2-S2-NIC2	R2-SW1-P2
R2-S3-IPMI	R2-SW2-P3	R2-S3-NIC1	R1-SW1-M5-P10	R2-S3-NIC2	R2-SW1-P3
R2-S4-IPMI	R2-SW2-P4	R2-S4-NIC1	R1-SW1-M5-P11	R2-S4-NIC2	R2-SW1-P4
R2-S5-IPMI	R2-SW2-P5	R2-S5-NIC1	R1-SW1-M5-P12	R2-S5-NIC2	R2-SW1-P5
R2-S6-IPMI	R2-SW2-P6	R2-S6-NIC1	R1-SW1-M5-P13	R2-S6-NIC2	R2-SW1-P6
R2-S7-IPMI	R2-SW2-P7	R2-S7-NIC1	R1-SW1-M5-P14	R2-S7-NIC2	R2-SW1-P7
R2-S8-IPMI	R2-SW2-P8	R2-S8-NIC1	R1-SW1-M5-P15	R2-S8-NIC2	R2-SW1-P8
R2-S9-IPMI	R2-SW2-P9	R2-S9-NIC1	R1-SW1-M6-P8	R2-S9-NIC2	R2-SW1-P9
R2-S10-IPMI	R2-SW2-P10	R2-S10-NIC1	R1-SW1-M6-P9	R2-S10-NIC2	R2-SW1-P10

*continued*

**Table 9-2: 32 Node GigE Cabling for DL145 LC Clusters Expandable to 64 Nodes** *continued*

OOB Switch Cabling		Cluster Interconnect Switch Cabling		IB Management Switch Cabling	
Origin (server)	Destination (switch)	Origin (server)	Destination (switch)	Origin (server)	Destination (switch)
R2-S11-IPMI	R2-SW2-P11	R2-S11-NIC1	R1-SW1-M6-P10	R2-S11-NIC2	R2-SW1-P11
R2-S12-IPMI	R2-SW2-P12	R2-S12-NIC1	R1-SW1-M6-P11	R2-S12-NIC2	R2-SW1-P12
R2-S13-IPMI	R2-SW2-P13	R2-S13-NIC1	R1-SW1-M6-P12	R2-S13-NIC2	R2-SW1-P13
R2-S14-IPMI	R2-SW2-P14	R2-S14-NIC1	R1-SW1-M6-P13	R2-S14-NIC2	R2-SW1-P14
R2-S15-IPMI	R2-SW2-P15	R2-S15-NIC1	R1-SW1-M6-P14	R2-S15-NIC2	R2-SW1-P15
R2-S16-IPMI	R2-SW2-P16	R2-S16-NIC1	R1-SW1-M6-P15	R2-S16-NIC2	R2-SW1-P16
R2-S17-IPMI	R2-SW2-P17	R2-S17-NIC1	R1-SW1-M7-P8	R2-S17-NIC2	R2-SW1-P17
R2-S18-IPMI	R2-SW2-P18	R2-S18-NIC1	R1-SW1-M7-P9	R2-S18-NIC2	R2-SW1-P18
R2-S19-IPMI	R2-SW2-P19	R2-S19-NIC1	R1-SW1-M7-P10	R2-S19-NIC2	R2-SW1-P19
R2-S20-IPMI	R2-SW2-P20	R2-S20-NIC1	R1-SW1-M7-P11	R2-S20-NIC2	R2-SW1-P20
R2-S21-IPMI	R2-SW2-P21	R2-S21-NIC1	R1-SW1-M7-P12	R2-S21-NIC2	R2-SW1-P21
R2-S22-IPMI	R2-SW2-P22	R2-S22-NIC1	R1-SW1-M7-P13	R2-S22-NIC2	R2-SW1-P22
R2-S23-IPMI	R2-SW2-P23	R2-S23-NIC1	R1-SW1-M7-P14	R2-S23-NIC2	R2-SW1-P23
R2-S24-IPMI	R2-SW2-P24	R2-S24-NIC1	R1-SW1-M7-P15	R2-S24-NIC2	R2-SW1-P24
R2-S25-IPMI	R2-SW2-P25	R2-S25-NIC1	R1-SW1-M8-P8	R2-S25-NIC2	R2-SW1-P25
R2-S26-IPMI	R2-SW2-P26	R2-S26-NIC1	R1-SW1-M8-P9	R2-S26-NIC2	R2-SW1-P26
R2-S27-IPMI	R2-SW2-P27	R2-S27-NIC1	R1-SW1-M8-P10	R2-S27-NIC2	R2-SW1-P27
R2-S28-IPMI	R2-SW2-P28	R2-S28-NIC1	R1-SW1-M8-P11	R2-S28-NIC2	R2-SW1-P28
R2-S29-IPMI	R2-SW2-P29	R2-S29-NIC1	R1-SW1-M8-P12	R2-S29-NIC2	R2-SW1-P29
R2-S30-IPMI	R2-SW2-P30	R2-S30-NIC1	R1-SW1-M8-P13	R2-S30-NIC2	R2-SW1-P30
R2-S31-IPMI	R2-SW2-P31	R2-S31-NIC1	R1-SW1-M8-P14	R2-S31-NIC2	R2-SW1-P31
R2-S32-IPMI	R2-SW2-P32	R2-S32-NIC1	R1-SW1-M8-P15	R2-S32-NIC2	R2-SW1-P32

**Table 9-3: Myricom Monitor**

From	To
R1-SW1-M9-P1	R1-SW2-P47

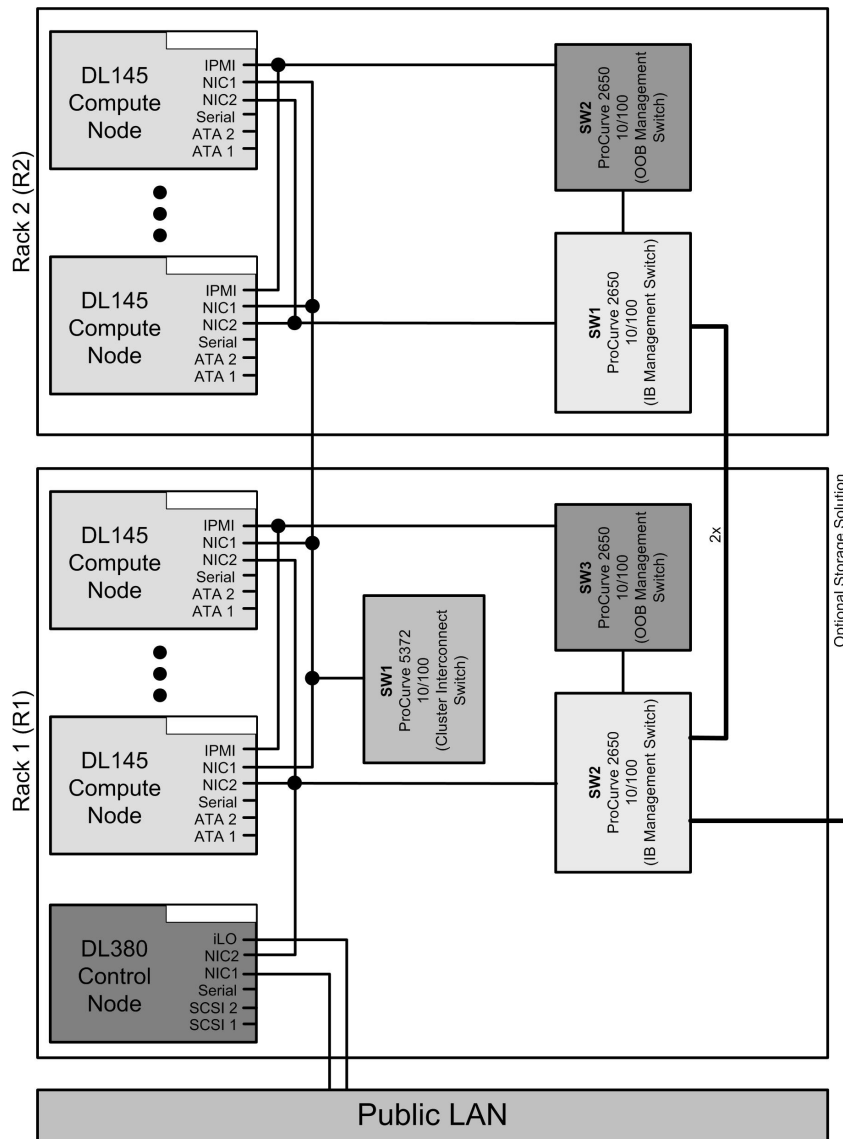
**Table 9-4: OOB Management Switch Uplink**

From	To
R1-SW3-P48	R1-SW2-P48
R2-SW2-P48	R2-SW1-P48



Table 9-5: IB Management Switch Uplink		
From	To	
R1-SW2-P46	R2-SW1-P47	Trunked together
R1-SW2-P45	R2-SW1-P46	
R1-SW2-P44	R2-SW1-P45	
R1-SW2-P43	R2-SW1-P44	

## 32 Node Fast Ethernet Expandable to 72 Nodes



## Rack Diagram

Rack 1 (R1)			Rack 2 (R2)		
42	S33	DL145	S40	Expansion	
41	S32	DL145	S39	Expansion	
40	S31	DL145	S38	Expansion	
39	S30	DL145	S37	Expansion	
38	S29	DL145	S36	Expansion	
37	S28	DL145	S35	Expansion	
36	S27	DL145	S34	Expansion	
35	S26	DL145	S33	Expansion	
34	S25	DL145	S32	Expansion	
33	S24	DL145	S31	Expansion	
32	S23	DL145	S30	Expansion	
31	S22	DL145	S29	Expansion	
30	S21	DL380 or DL145	S28	Expansion	
29			S27	Expansion	
28	S20	DL145	S26	Expansion	
27	S19	DL145	S25	Expansion	
26	S18	DL145	S24	Expansion	
25	S17	DL145	S23	Expansion	
24	S16	DL145	S22	Expansion	
23	S15	DL145	S21	Expansion	
22	SW3	ProCurve 2650	SW2	Expansion	
21	SW2	ProCurve 2650	SW1	Expansion	
20	TFT5600		S20	Expansion	
19	S14	DL145	S19	Expansion	
18	S13	DL145	S18	Expansion	
17	S12	DL145	S17	Expansion	
16	S11	DL145	S16	Expansion	
15	S10	DL145	S15	Expansion	
14	S9	DL145	S14	Expansion	
13	S8	DL145	S13	Expansion	
12	S7	DL145	S12	Expansion	
11	S6	DL145	S11	Expansion	
10	S5	DL145	S10	Expansion	
9	S4	DL145	S9	Expansion	
8	S3	DL145	S8	Expansion	
7	S2	DL145	S7	Expansion	
6	S1	DL145	S6	Expansion	
5	SW1 ProCurve 5372		S5	Expansion	
4			S4	Expansion	
3			S3	Expansion	
2			S2	Expansion	
1			S1	Expansion	

## Point-to-Point Cabling Guide

**Table 10-1: Cable Label Nomenclature**

Symbol	Description
R	Rack number
S	Control/Compute/Storage node number
SW	Out of Band (OOB) Management Switch/Cluster Interconnect Switch/In Band (IB) Management Switch number
M	Module letter or Module number
P	Port number
NIC	NIC port number
IPMI	IPMI port

**Table 10-2: 32 Node Fast Ethernet Cabling for DL145 LC Clusters Expandable to 72 Nodes**

OOB Switch Cabling		Cluster Interconnect Switch Cabling		IB Management Switch Cabling	
Origin (server)	Destination (switch)	Origin (server)	Destination (switch)	Origin (server)	Destination (switch)
R1-S1-IPMI	R1-SW3-P1	R1-S1-NIC1	R1-SW1-MB-P1	R1-S1-NIC2	R1-SW2-P1
R1-S2-IPMI	R1-SW3-P2	R1-S2-NIC1	R1-SW1-MB-P2	R1-S2-NIC2	R1-SW2-P2
R1-S3-IPMI	R1-SW3-P3	R1-S3-NIC1	R1-SW1-MB-P3	R1-S3-NIC2	R1-SW2-P3
R1-S4-IPMI	R1-SW3-P4	R1-S4-NIC1	R1-SW1-MB-P4	R1-S4-NIC2	R1-SW2-P4
R1-S5-IPMI	R1-SW3-P5	R1-S5-NIC1	R1-SW1-MB-P5	R1-S5-NIC2	R1-SW2-P5
R1-S6-IPMI	R1-SW3-P6	R1-S6-NIC1	R1-SW1-MB-P6	R1-S6-NIC2	R1-SW2-P6
R1-S7-IPMI	R1-SW3-P7	R1-S7-NIC1	R1-SW1-MB-P7	R1-S7-NIC2	R1-SW2-P7
R1-S8-IPMI	R1-SW3-P8	R1-S8-NIC1	R1-SW1-MB-P8	R1-S8-NIC2	R1-SW2-P8
R1-S9-IPMI	R1-SW3-P9	R1-S9-NIC1	R1-SW1-MB-P9	R1-S9-NIC2	R1-SW2-P9
R1-S10-IPMI	R1-SW3-P10	R1-S10-NIC1	R1-SW1-MB-P10	R1-S10-NIC2	R1-SW2-P10
R1-S11-IPMI	R1-SW3-P11	R1-S11-NIC1	R1-SW1-MB-P11	R1-S11-NIC2	R1-SW2-P11
R1-S12-IPMI	R1-SW3-P12	R1-S12-NIC1	R1-SW1-MB-P12	R1-S12-NIC2	R1-SW2-P12
R1-S13-IPMI	R1-SW3-P13	R1-S13-NIC1	R1-SW1-MB-P13	R1-S13-NIC2	R1-SW2-P13

*continued*

**Table 10-2: 32 Node Fast Ethernet Cabling for DL145 LC Clusters Expandable to 72 Nodes***continued*

OOB Switch Cabling		Cluster Interconnect Switch Cabling		IB Management Switch Cabling	
Origin (server)	Destination (switch)	Origin (server)	Destination (switch)	Origin (server)	Destination (switch)
R1-S14-IPMI	R1-SW3-P14	R1-S14-NIC1	R1-SW1-MB-P14	R1-S14-NIC2	R1-SW2-P14
R1-S15-IPMI	R1-SW3-P15	R1-S15-NIC1	R1-SW1-MB-P15	R1-S15-NIC2	R1-SW2-P15
R1-S16-IPMI	R1-SW3-P16	R1-S16-NIC1	R1-SW1-MB-P16	R1-S16-NIC2	R1-SW2-P16
R1-S17-IPMI	R1-SW3-P17	R1-S17-NIC1	R1-SW1-MB-P17	R1-S17-NIC2	R1-SW2-P17
R1-S18-IPMI	R1-SW3-P18	R1-S18-NIC1	R1-SW1-MB-P18	R1-S18-NIC2	R1-SW2-P18
R1-S19-IPMI	R1-SW3-P19	R1-S19-NIC1	R1-SW1-MB-P19	R1-S19-NIC2	R1-SW2-P19
R1-S20-IPMI	R1-SW3-P20	R1-S20-NIC1	R1-SW1-MB-P20	R1-S20-NIC2	R1-SW2-P20
N/A	N/A	N/A	N/A	R1-S21-NIC2	R1-SW2-P21
R1-S22-IPMI	R1-SW3-P22	R1-S22-NIC1	R1-SW1-MB-P21	R1-S22-NIC2	R1-SW2-P22
R1-S23-IPMI	R1-SW3-P23	R1-S23-NIC1	R1-SW1-MB-P22	R1-S23-NIC2	R1-SW2-P23
R1-S24-IPMI	R1-SW3-P24	R1-S24-NIC1	R1-SW1-MB-P23	R1-S24-NIC2	R1-SW2-P24
R1-S25-IPMI	R1-SW3-P25	R1-S25-NIC1	R1-SW1-MB-P24	R1-S25-NIC2	R1-SW2-P25
R1-S26-IPMI	R1-SW3-P26	R1-S26-NIC1	R1-SW1-MC-P1	R1-S26-NIC2	R1-SW2-P26
R1-S27-IPMI	R1-SW3-P27	R1-S27-NIC1	R1-SW1-MC-P2	R1-S27-NIC2	R1-SW2-P27
R1-S28-IPMI	R1-SW3-P28	R1-S28-NIC1	R1-SW1-MC-P3	R1-S28-NIC2	R1-SW2-P28
R1-S29-IPMI	R1-SW3-P29	R1-S29-NIC1	R1-SW1-MC-P4	R1-S29-NIC2	R1-SW2-P29
R1-S30-IPMI	R1-SW3-P30	R1-S30-NIC1	R1-SW1-MC-P5	R1-S30-NIC2	R1-SW2-P30
R1-S31-IPMI	R1-SW3-P31	R1-S31-NIC1	R1-SW1-MC-P6	R1-S31-NIC2	R1-SW2-P31
R1-S32-IPMI	R1-SW3-P32	R1-S32-NIC1	R1-SW1-MC-P7	R1-S32-NIC2	R1-SW2-P32
R1-S33-IPMI	R1-SW3-P33	R1-S33-NIC1	R1-SW1-MC-P8	R1-S33-NIC2	R1-SW2-P33
R2-S1-IPMI	R2-SW2-P1	R2-S1-NIC1	R1-SW1-MC-P9	R2-S1-NIC2	R2-SW1-P1
R2-S2-IPMI	R2-SW2-P2	R2-S2-NIC1	R1-SW1-MC-P10	R2-S2-NIC2	R2-SW1-P2
R2-S3-IPMI	R2-SW2-P3	R2-S3-NIC1	R1-SW1-MC-P11	R2-S3-NIC2	R2-SW1-P3
R2-S4-IPMI	R2-SW2-P4	R2-S4-NIC1	R1-SW1-MC-P12	R2-S4-NIC2	R2-SW1-P4
R2-S5-IPMI	R2-SW2-P5	R2-S5-NIC1	R1-SW1-MC-P13	R2-S5-NIC2	R2-SW1-P5
R2-S6-IPMI	R2-SW2-P6	R2-S6-NIC1	R1-SW1-MC-P14	R2-S6-NIC2	R2-SW1-P6
R2-S7-IPMI	R2-SW2-P7	R2-S7-NIC1	R1-SW1-MC-P15	R2-S7-NIC2	R2-SW1-P7
R2-S8-IPMI	R2-SW2-P8	R2-S8-NIC1	R1-SW1-MC-P16	R2-S8-NIC2	R2-SW1-P8
R2-S9-IPMI	R2-SW2-P9	R2-S9-NIC1	R1-SW1-MC-P17	R2-S9-NIC2	R2-SW1-P9
R2-S10-IPMI	R2-SW2-P10	R2-S10-NIC1	R1-SW1-MC-P18	R2-S10-NIC2	R2-SW1-P10

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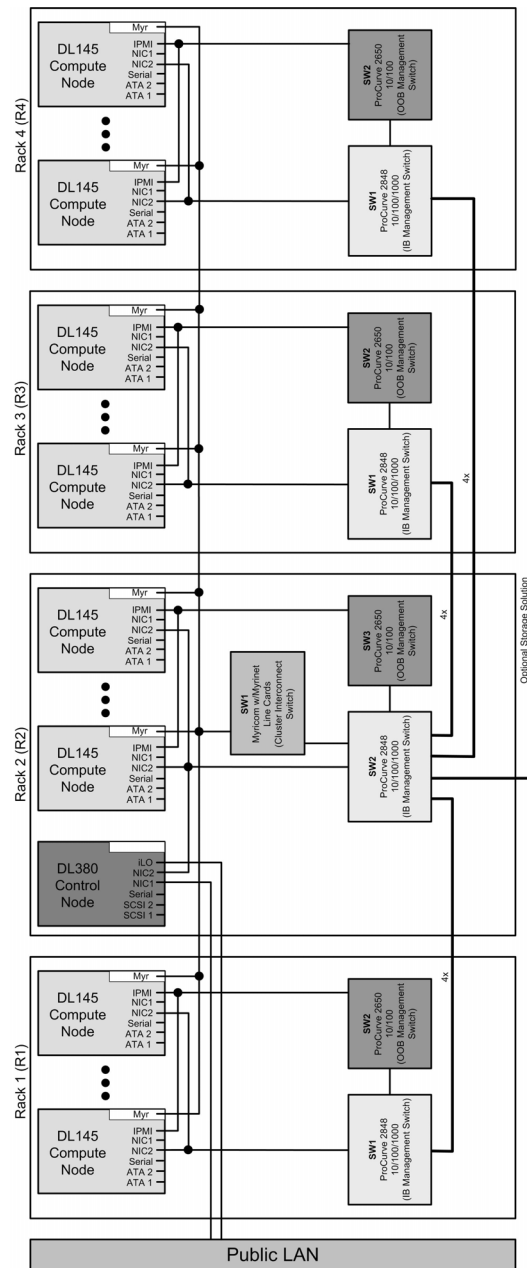
**Table 10-2: 32 Node Fast Ethernet Cabling for DL145 LC Clusters Expandable to 72 Nodes***continued*

OOB Switch Cabling		Cluster Interconnect Switch Cabling		IB Management Switch Cabling	
Origin (server)	Destination (switch)	Origin (server)	Destination (switch)	Origin (server)	Destination (switch)
R2-S11-IPMI	R2-SW2-P11	R2-S11-NIC1	R1-SW1-MC-P19	R2-S11-NIC2	R2-SW1-P11
R2-S12-IPMI	R2-SW2-P12	R2-S12-NIC1	R1-SW1-MC-P20	R2-S12-NIC2	R2-SW1-P12
R2-S13-IPMI	R2-SW2-P13	R2-S13-NIC1	R1-SW1-MC-P21	R2-S13-NIC2	R2-SW1-P13
R2-S14-IPMI	R2-SW2-P14	R2-S14-NIC1	R1-SW1-MC-P22	R2-S14-NIC2	R2-SW1-P14
R2-S15-IPMI	R2-SW2-P15	R2-S15-NIC1	R1-SW1-MC-P23	R2-S15-NIC2	R2-SW1-P15
R2-S16-IPMI	R2-SW2-P16	R2-S16-NIC1	R1-SW1-MC-P24	R2-S16-NIC2	R2-SW1-P16
R2-S17-IPMI	R2-SW2-P17	R2-S17-NIC1	R1-SW1-MD-P1	R2-S17-NIC2	R2-SW1-P17
R2-S18-IPMI	R2-SW2-P18	R2-S18-NIC1	R1-SW1-MD-P2	R2-S18-NIC2	R2-SW1-P18
R2-S19-IPMI	R2-SW2-P19	R2-S19-NIC1	R1-SW1-MD-P3	R2-S19-NIC2	R2-SW1-P19
R2-S20-IPMI	R2-SW2-P20	R2-S20-NIC1	R1-SW1-MD-P4	R2-S20-NIC2	R2-SW1-P20
R2-S21-IPMI	R2-SW2-P21	R2-S21-NIC1	R1-SW1-MD-P5	R2-S21-NIC2	R2-SW1-P21
R2-S22-IPMI	R2-SW2-P22	R2-S22-NIC1	R1-SW1-MD-P6	R2-S22-NIC2	R2-SW1-P22
R2-S23-IPMI	R2-SW2-P23	R2-S23-NIC1	R1-SW1-MD-P7	R2-S23-NIC2	R2-SW1-P23
R2-S24-IPMI	R2-SW2-P24	R2-S24-NIC1	R1-SW1-MD-P8	R2-S24-NIC2	R2-SW1-P24
R2-S25-IPMI	R2-SW2-P25	R2-S25-NIC1	R1-SW1-MD-P9	R2-S25-NIC2	R2-SW1-P25
R2-S26-IPMI	R2-SW2-P26	R2-S26-NIC1	R1-SW1-MD-P10	R2-S26-NIC2	R2-SW1-P26
R2-S27-IPMI	R2-SW2-P27	R2-S27-NIC1	R1-SW1-MD-P11	R2-S27-NIC2	R2-SW1-P27
R2-S28-IPMI	R2-SW2-P28	R2-S28-NIC1	R1-SW1-MD-P12	R2-S28-NIC2	R2-SW1-P28
R2-S29-IPMI	R2-SW2-P29	R2-S29-NIC1	R1-SW1-MD-P13	R2-S29-NIC2	R2-SW1-P29
R2-S30-IPMI	R2-SW2-P30	R2-S30-NIC1	R1-SW1-MD-P14	R2-S30-NIC2	R2-SW1-P30
R2-S31-IPMI	R2-SW2-P31	R2-S31-NIC1	R1-SW1-MD-P15	R2-S31-NIC2	R2-SW1-P31
R2-S32-IPMI	R2-SW2-P32	R2-S32-NIC1	R1-SW1-MD-P16	R2-S32-NIC2	R2-SW1-P32
R2-S33-IPMI	R2-SW2-P33	R2-S33-NIC1	R1-SW1-MD-P17	R2-S33-NIC2	R2-SW1-P33
R2-S34-IPMI	R2-SW2-P34	R2-S34-NIC1	R1-SW1-MD-P18	R2-S34-NIC2	R2-SW1-P34
R2-S35-IPMI	R2-SW2-P35	R2-S35-NIC1	R1-SW1-MD-P19	R2-S35-NIC2	R2-SW1-P35
R2-S36-IPMI	R2-SW2-P36	R2-S36-NIC1	R1-SW1-MD-P20	R2-S36-NIC2	R2-SW1-P36
R2-S37-IPMI	R2-SW2-P37	R2-S37-NIC1	R1-SW1-MD-P21	R2-S37-NIC2	R2-SW1-P37
R2-S38-IPMI	R2-SW2-P38	R2-S38-NIC1	R1-SW1-MD-P22	R2-S38-NIC2	R2-SW1-P38
R2-S39-IPMI	R2-SW2-P39	R2-S39-NIC1	R1-SW1-MD-P23	R2-S39-NIC2	R2-SW1-P39
R2-S40-IPMI	R2-SW2-P40	R2-S40-NIC1	R1-SW1-MD-P24	R2-S40-NIC2	R2-SW1-P40

Table 10-3: OOB Management Switch Uplink	
From	To
R1-SW3-P48	R1-SW2-P48
R2-SW2-P48	R2-SW1-P48

Table 10-4: IB Management Switch Uplink		
From	To	
R1-SW2-P50	R2-SW1-P50	Trunked together
R1-SW2-P49	R2-SW1-P49	

## 64 Node Myrinet Expandable to 128 Nodes





## Rack Diagram

Rack 1 (R1)		Rack 2 (R2)		Rack 3 (R3)		Rack 4 (R4)	
42	S40 Expansion	S29 DL145		S40 Expansion			
41	S39 Expansion	S28 DL145		S39 Expansion			
40	S38 Expansion	S27 DL145		S38 Expansion			
39	S37 Expansion	S26 DL145		S37 Expansion			
38	S36 DL145	S25 DL145		S36 Expansion			
37	S35 DL145	S24 DL145		S35 Expansion			
36	S34 DL145	S23 DL145		S34 Expansion			
35	S33 DL145	S22 DL145		S33 Expansion			
34	S32 DL145	S21 DL145		S32 Expansion			
33	S31 DL145	S20 DL145		S31 Expansion			
32	S30 DL145	S19 DL145		S30 Expansion			
31	S29 DL145	S18 DL145		S29 Expansion			
30	S28 DL145	S17 DL380 or DL145		S28 Expansion			
29	S27 DL145	S16 DL145		S27 Expansion			
28	S26 DL145	S15 DL145		S26 Expansion			
27	S25 DL145	S14 DL145		S25 Expansion			
26	S24 DL145	S13 DL145		S24 Expansion			
25	S23 DL145	S12 DL145		S23 Expansion			
24	S22 DL145	S11 DL145		S22 Expansion			
23	S21 DL145	SW3 ProCurve 2650		S21 Expansion			
22	SW2 ProCurve 2650	SW2 ProCurve 2848		SW2 Expansion	SW2 Expansion		
21	SW1 ProCurve 2848	TFT5600		SW1 Expansion	SW1 Expansion		
20	S20 DL145	S10 DL145		S20 Expansion	S20 Expansion		
19	S19 DL145	S9 DL145		S19 Expansion	S19 Expansion		
18	S18 DL145	S8 DL145		S18 Expansion	S18 Expansion		
17	S17 DL145	S7 DL145		S17 Expansion	S17 Expansion		
16	S16 DL145	S6 DL145		S16 Expansion	S16 Expansion		
15	S15 DL145	S5 DL145		S15 Expansion	S15 Expansion		
14	S14 DL145	S4 DL145		S14 Expansion	S14 Expansion		
13	S13 DL145	S3 DL145		S13 Expansion	S13 Expansion		
12	S12 DL145	S2 DL145		S12 Expansion	S12 Expansion		
11	S11 DL145	S1 DL145		S11 Expansion	S11 Expansion		
10	S10 DL145	SW1 Myricom 17 slot chassis w/Myrinet line cards		S10 Expansion	S10 Expansion		
9	S9 DL145			S9 Expansion	S9 Expansion		
8	S8 DL145			S8 Expansion	S8 Expansion		
7	S7 DL145			S7 Expansion	S7 Expansion		
6	S6 DL145			S6 Expansion	S6 Expansion		
5	S5 DL145			S5 Expansion	S5 Expansion		
4	S4 DL145			S4 Expansion	S4 Expansion		
3	S3 DL145			S3 Expansion	S3 Expansion		
2	S2 DL145			S2 Expansion	S2 Expansion		
1	S1 DL145			S1 Expansion	S1 Expansion		

## Point-to-Point Cabling Guide

**Table 11-1: Cable Label Nomenclature**

Symbol	Description
R	Rack number
S	Control/Compute/Storage node number
SW	Out of Band (OOB) Management Switch/Cluster Interconnect Switch/In Band (IB) Management Switch number
M	Module letter or Module number
P	Port number
NIC	NIC port number
IPMI	IPMI port
PCI	Myrinet Adapter (in PCI slot)

**Table 11-2: 64 Node Myrinet Cabling for DL145 LC Clusters Expandable to 128 Nodes**

OOB Switch Cabling		Cluster Interconnect Switch Cabling		IB Management Switch Cabling	
Origin (server)	Destination (switch)	Origin (server)	Destination (switch)	Origin (server)	Destination (switch)
R1-S1-IPMI	R1-SW2-P1	R1-S1-PCI	R2-SW1-M4-P12	R1-S1-NIC2	R1-SW1-P1
R1-S2-IPMI	R1-SW2-P2	R1-S2-PCI	R2-SW1-M4-P13	R1-S2-NIC2	R1-SW1-P2
R1-S3-IPMI	R1-SW2-P3	R1-S3-PCI	R2-SW1-M4-P14	R1-S3-NIC2	R1-SW1-P3
R1-S4-IPMI	R1-SW2-P4	R1-S4-PCI	R2-SW1-M4-P15	R1-S4-NIC2	R1-SW1-P4
R1-S5-IPMI	R1-SW2-P5	R1-S5-PCI	R2-SW1-M5-P8	R1-S5-NIC2	R1-SW1-P5
R1-S6-IPMI	R1-SW2-P6	R1-S6-PCI	R2-SW1-M5-P9	R1-S6-NIC2	R1-SW1-P6
R1-S7-IPMI	R1-SW2-P7	R1-S7-PCI	R2-SW1-M5-P10	R1-S7-NIC2	R1-SW1-P7
R1-S8-IPMI	R1-SW2-P8	R1-S8-PCI	R2-SW1-M5-P11	R1-S8-NIC2	R1-SW1-P8
R1-S9-IPMI	R1-SW2-P9	R1-S9-PCI	R2-SW1-M5-P12	R1-S9-NIC2	R1-SW1-P9
R1-S10-IPMI	R1-SW2-P10	R1-S10-PCI	R2-SW1-M5-P13	R1-S10-NIC2	R1-SW1-P10
R1-S11-IPMI	R1-SW2-P11	R1-S11-PCI	R2-SW1-M5-P14	R1-S11-NIC2	R1-SW1-P11
R1-S12-IPMI	R1-SW2-P12	R1-S12-PCI	R2-SW1-M5-P15	R1-S12-NIC2	R1-SW1-P12
R1-S13-IPMI	R1-SW2-P13	R1-S13-PCI	R2-SW1-M6-P8	R1-S13-NIC2	R1-SW1-P13

*continued*

**Table 11-2: 64 Node Myrinet Cabling for DL145 LC Clusters Expandable to 128 Nodes** *continued*

OOB Switch Cabling		Cluster Interconnect Switch Cabling		IB Management Switch Cabling	
Origin (server)	Destination (switch)	Origin (server)	Destination (switch)	Origin (server)	Destination (switch)
R1-S14-IPMI	R1-SW2-P14	R1-S14-PCI	R2-SW1-M6-P9	R1-S14-NIC2	R1-SW1-P14
R1-S15-IPMI	R1-SW2-P15	R1-S15-PCI	R2-SW1-M6-P10	R1-S15-NIC2	R1-SW1-P15
R1-S16-IPMI	R1-SW2-P16	R1-S16-PCI	R2-SW1-M6-P11	R1-S16-NIC2	R1-SW1-P16
R1-S17-IPMI	R1-SW2-P17	R1-S17-PCI	R2-SW1-M6-P12	R1-S17-NIC2	R1-SW1-P17
R1-S18-IPMI	R1-SW2-P18	R1-S18-PCI	R2-SW1-M6-P13	R1-S18-NIC2	R1-SW1-P18
R1-S19-IPMI	R1-SW2-P19	R1-S19-PCI	R2-SW1-M6-P14	R1-S19-NIC2	R1-SW1-P19
R1-S20-IPMI	R1-SW2-P20	R1-S20-PCI	R2-SW1-M6-P15	R1-S20-NIC2	R1-SW1-P20
R1-S21-IPMI	R1-SW2-P21	R1-S21-PCI	R2-SW1-M7-P8	R1-S21-NIC2	R1-SW1-P21
R1-S22-IPMI	R1-SW2-P22	R1-S22-PCI	R2-SW1-M7-P9	R1-S22-NIC2	R1-SW1-P22
R1-S23-IPMI	R1-SW2-P23	R1-S23-PCI	R2-SW1-M7-P10	R1-S23-NIC2	R1-SW1-P23
R1-S24-IPMI	R1-SW2-P24	R1-S24-PCI	R2-SW1-M7-P11	R1-S24-NIC2	R1-SW1-P24
R1-S25-IPMI	R1-SW2-P25	R1-S25-PCI	R2-SW1-M7-P12	R1-S25-NIC2	R1-SW1-P25
R1-S26-IPMI	R1-SW2-P26	R1-S26-PCI	R2-SW1-M7-P13	R1-S26-NIC2	R1-SW1-P26
R1-S27-IPMI	R1-SW2-P27	R1-S27-PCI	R2-SW1-M7-P14	R1-S27-NIC2	R1-SW1-P27
R1-S28-IPMI	R1-SW2-P28	R1-S28-PCI	R2-SW1-M7-P15	R1-S28-NIC2	R1-SW1-P28
R1-S29-IPMI	R1-SW2-P29	R1-S29-PCI	R2-SW1-M8-P8	R1-S29-NIC2	R1-SW1-P29
R1-S30-IPMI	R1-SW2-P30	R1-S30-PCI	R2-SW1-M8-P9	R1-S30-NIC2	R1-SW1-P30
R1-S31-IPMI	R1-SW2-P31	R1-S31-PCI	R2-SW1-M8-P10	R1-S31-NIC2	R1-SW1-P31
R1-S32-IPMI	R1-SW2-P32	R1-S32-PCI	R2-SW1-M8-P11	R1-S32-NIC2	R1-SW1-P32
R1-S33-IPMI	R1-SW2-P33	R1-S33-PCI	R2-SW1-M8-P12	R1-S33-NIC2	R1-SW1-P33
R1-S34-IPMI	R1-SW2-P34	R1-S34-PCI	R2-SW1-M8-P13	R1-S34-NIC2	R1-SW1-P34
R1-S35-IPMI	R1-SW2-P35	R1-S35-PCI	R2-SW1-M8-P14	R1-S35-NIC2	R1-SW1-P35
R1-S36-IPMI	R1-SW2-P36	R1-S36-PCI	R2-SW1-M8-P15	R1-S36-NIC2	R1-SW1-P36
R1-S37-IPMI	R1-SW2-P37	R1-S37-PCI	R2-SW1-M9-P8	R1-S37-NIC2	R1-SW1-P37
R1-S38-IPMI	R1-SW2-P38	R1-S38-PCI	R2-SW1-M9-P9	R1-S38-NIC2	R1-SW1-P38
R1-S39-IPMI	R1-SW2-P39	R1-S39-PCI	R2-SW1-M9-P10	R1-S39-NIC2	R1-SW1-P39
R1-S40-IPMI	R1-SW2-P40	R1-S40-PCI	R2-SW1-M9-P11	R1-S40-NIC2	R1-SW1-P40
R2-S1-IPMI	R2-SW3-P1	R2-S1-PCI	R2-SW1-M1-P8	R2-S1-NIC2	R2-SW2-P1
R2-S2-IPMI	R2-SW3-P2	R2-S2-PCI	R2-SW1-M1-P9	R2-S2-NIC2	R2-SW2-P2
R2-S3-IPMI	R2-SW3-P3	R2-S3-PCI	R2-SW1-M1-P10	R2-S3-NIC2	R2-SW2-P3

*continued*

**Table 11-2: 64 Node Myrinet Cabling for DL145 LC Clusters Expandable to 128 Nodes** *continued*

OOB Switch Cabling		Cluster Interconnect Switch Cabling		IB Management Switch Cabling	
Origin (server)	Destination (switch)	Origin (server)	Destination (switch)	Origin (server)	Destination (switch)
R2-S4-IPMI	R2-SW3-P4	R2-S4-PCI	R2-SW1-M1-P11	R2-S4-NIC2	R2-SW2-P4
R2-S5-IPMI	R2-SW3-P5	R2-S5-PCI	R2-SW1-M1-P12	R2-S5-NIC2	R2-SW2-P5
R2-S6-IPMI	R2-SW3-P6	R2-S6-PCI	R2-SW1-M1-P13	R2-S6-NIC2	R2-SW2-P6
R2-S7-IPMI	R2-SW3-P7	R2-S7-PCI	R2-SW1-M1-P14	R2-S7-NIC2	R2-SW2-P7
R2-S8-IPMI	R2-SW3-P8	R2-S8-PCI	R2-SW1-M1-P15	R2-S8-NIC2	R2-SW2-P8
R2-S9-IPMI	R2-SW3-P9	R2-S9-PCI	R2-SW1-M2-P8	R2-S9-NIC2	R2-SW2-P9
R2-S10-IPMI	R2-SW3-P10	R2-S10-PCI	R2-SW1-M2-P9	R2-S10-NIC2	R2-SW2-P10
R2-S11-IPMI	R2-SW3-P11	R2-S11-PCI	R2-SW1-M2-P10	R2-S11-NIC2	R2-SW2-P11
R2-S12-IPMI	R2-SW3-P12	R2-S12-PCI	R2-SW1-M2-P11	R2-S12-NIC2	R2-SW2-P12
R2-S13-IPMI	R2-SW3-P13	R2-S13-PCI	R2-SW1-M2-P12	R2-S13-NIC2	R2-SW2-P13
R2-S14-IPMI	R2-SW3-P14	R2-S14-PCI	R2-SW1-M2-P13	R2-S14-NIC2	R2-SW2-P14
R2-S15-IPMI	R2-SW3-P15	R2-S15-PCI	R2-SW1-M2-P14	R2-S15-NIC2	R2-SW2-P15
R2-S16-IPMI	R2-SW3-P16	R2-S16-PCI	R2-SW1-M2-P15	R2-S16-NIC2	R2-SW2-P16
N/A	N/A	N/A	N/A	R2-S17-NIC2	R2-SW2-P17
R2-S18-IPMI	R2-SW3-P18	R2-S18-PCI	R2-SW1-M3-P8	R2-S18-NIC2	R2-SW2-P18
R2-S19-IPMI	R2-SW3-P19	R2-S19-PCI	R2-SW1-M3-P9	R2-S19-NIC2	R2-SW2-P19
R2-S20-IPMI	R2-SW3-P20	R2-S20-PCI	R2-SW1-M3-P10	R2-S20-NIC2	R2-SW2-P20
R2-S21-IPMI	R2-SW3-P21	R2-S21-PCI	R2-SW1-M3-P11	R2-S21-NIC2	R2-SW2-P21
R2-S22-IPMI	R2-SW3-P22	R2-S22-PCI	R2-SW1-M3-P12	R2-S22-NIC2	R2-SW2-P22
R2-S23-IPMI	R2-SW3-P23	R2-S23-PCI	R2-SW1-M3-P13	R2-S23-NIC2	R2-SW2-P23
R2-S24-IPMI	R2-SW3-P24	R2-S24-PCI	R2-SW1-M3-P14	R2-S24-NIC2	R2-SW2-P24
R2-S25-IPMI	R2-SW3-P25	R2-S25-PCI	R2-SW1-M3-P15	R2-S25-NIC2	R2-SW2-P25
R2-S26-IPMI	R2-SW3-P26	R2-S26-PCI	R2-SW1-M4-P8	R2-S26-NIC2	R2-SW2-P26
R2-S27-IPMI	R2-SW3-P27	R2-S27-PCI	R2-SW1-M4-P9	R2-S27-NIC2	R2-SW2-P27
R2-S28-IPMI	R2-SW3-P28	R2-S28-PCI	R2-SW1-M4-P10	R2-S28-NIC2	R2-SW2-P28
R2-S29-IPMI	R2-SW3-P29	R2-S29-PCI	R2-SW1-M4-P11	R2-S29-NIC2	R2-SW2-P29
R3-S1-IPMI	R3-SW2-P1	R3-S1-PCI	R2-SW1-M9-P12	R3-S1-NIC2	R3-SW1-P1
R3-S2-IPMI	R3-SW2-P2	R3-S2-PCI	R2-SW1-M9-P13	R3-S2-NIC2	R3-SW1-P2
R3-S3-IPMI	R3-SW2-P3	R3-S3-PCI	R2-SW1-M9-P14	R3-S3-NIC2	R3-SW1-P3
R3-S4-IPMI	R3-SW2-P4	R3-S4-PCI	R2-SW1-M9-P15	R3-S4-NIC2	R3-SW1-P4

*continued*

**Table 11-2: 64 Node Myrinet Cabling for DL145 LC Clusters Expandable to 128 Nodes** *continued*

OOB Switch Cabling		Cluster Interconnect Switch Cabling		IB Management Switch Cabling	
Origin (server)	Destination (switch)	Origin (server)	Destination (switch)	Origin (server)	Destination (switch)
R3-S5-IPMI	R3-SW2-P5	R3-S5-PCI	R2-SW1-M10-P8	R3-S5-NIC2	R3-SW1-P5
R3-S6-IPMI	R3-SW2-P6	R3-S6-PCI	R2-SW1-M10-P9	R3-S6-NIC2	R3-SW1-P6
R3-S7-IPMI	R3-SW2-P7	R3-S7-PCI	R2-SW1-M10-P10	R3-S7-NIC2	R3-SW1-P7
R3-S8-IPMI	R3-SW2-P8	R3-S8-PCI	R2-SW1-M10-P11	R3-S8-NIC2	R3-SW1-P8
R3-S9-IPMI	R3-SW2-P9	R3-S9-PCI	R2-SW1-M10-P12	R3-S9-NIC2	R3-SW1-P9
R3-S10-IPMI	R3-SW2-P10	R3-S10-PCI	R2-SW1-M10-P13	R3-S10-NIC2	R3-SW1-P10
R3-S11-IPMI	R3-SW2-P11	R3-S11-PCI	R2-SW1-M10-P14	R3-S11-NIC2	R3-SW1-P11
R3-S12-IPMI	R3-SW2-P12	R3-S12-PCI	R2-SW1-M10-P15	R3-S12-NIC2	R3-SW1-P12
R3-S13-IPMI	R3-SW2-P13	R3-S13-PCI	R2-SW1-M11-P8	R3-S13-NIC2	R3-SW1-P13
R3-S14-IPMI	R3-SW2-P14	R3-S14-PCI	R2-SW1-M11-P9	R3-S14-NIC2	R3-SW1-P14
R3-S15-IPMI	R3-SW2-P15	R3-S15-PCI	R2-SW1-M11-P10	R3-S15-NIC2	R3-SW1-P15
R3-S16-IPMI	R3-SW2-P16	R3-S16-PCI	R2-SW1-M11-P11	R3-S16-NIC2	R3-SW1-P16
R3-S17-IPMI	R3-SW2-P17	R3-S17-PCI	R2-SW1-M11-P12	R3-S17-NIC2	R3-SW1-P17
R3-S18-IPMI	R3-SW2-P18	R3-S18-PCI	R2-SW1-M11-P13	R3-S18-NIC2	R3-SW1-P18
R3-S19-IPMI	R3-SW2-P19	R3-S19-PCI	R2-SW1-M11-P14	R3-S19-NIC2	R3-SW1-P19
R3-S20-IPMI	R3-SW2-P20	R3-S20-PCI	R2-SW1-M11-P15	R3-S20-NIC2	R3-SW1-P20
R3-S21-IPMI	R3-SW2-P21	R3-S21-PCI	R2-SW1-M12-P8	R3-S21-NIC2	R3-SW1-P21
R3-S22-IPMI	R3-SW2-P22	R3-S22-PCI	R2-SW1-M12-P9	R3-S22-NIC2	R3-SW1-P22
R3-S23-IPMI	R3-SW2-P23	R3-S23-PCI	R2-SW1-M12-P10	R3-S23-NIC2	R3-SW1-P23
R3-S24-IPMI	R3-SW2-P24	R3-S24-PCI	R2-SW1-M12-P11	R3-S24-NIC2	R3-SW1-P24
R3-S25-IPMI	R3-SW2-P25	R3-S25-PCI	R2-SW1-M12-P12	R3-S25-NIC2	R3-SW1-P25
R3-S26-IPMI	R3-SW2-P26	R3-S26-PCI	R2-SW1-M12-P13	R3-S26-NIC2	R3-SW1-P26
R3-S27-IPMI	R3-SW2-P27	R3-S27-PCI	R2-SW1-M12-P14	R3-S27-NIC2	R3-SW1-P27
R3-S28-IPMI	R3-SW2-P28	R3-S28-PCI	R2-SW1-M12-P15	R3-S28-NIC2	R3-SW1-P28
R3-S29-IPMI	R3-SW2-P29	R3-S29-PCI	R2-SW1-M13-P8	R3-S29-NIC2	R3-SW1-P29
R3-S30-IPMI	R3-SW2-P30	R3-S30-PCI	R2-SW1-M13-P9	R3-S30-NIC2	R3-SW1-P30
R3-S31-IPMI	R3-SW2-P31	R3-S31-PCI	R2-SW1-M13-P10	R3-S31-NIC2	R3-SW1-P31
R3-S32-IPMI	R3-SW2-P32	R3-S32-PCI	R2-SW1-M13-P11	R3-S32-NIC2	R3-SW1-P32
R3-S33-IPMI	R3-SW2-P33	R3-S33-PCI	R2-SW1-M13-P12	R3-S33-NIC2	R3-SW1-P33
R3-S34-IPMI	R3-SW2-P34	R3-S34-PCI	R2-SW1-M13-P13	R3-S34-NIC2	R3-SW1-P34

*continued*

**Table 11-2: 64 Node Myrinet Cabling for DL145 LC Clusters Expandable to 128 Nodes** *continued*

OOB Switch Cabling		Cluster Interconnect Switch Cabling		IB Management Switch Cabling	
Origin (server)	Destination (switch)	Origin (server)	Destination (switch)	Origin (server)	Destination (switch)
R3-S35-IPMI	R3-SW2-P35	R3-S35-PCI	R2-SW1-M13-P14	R3-S35-NIC2	R3-SW1-P35
R3-S36-IPMI	R3-SW2-P36	R3-S36-PCI	R2-SW1-M13-P15	R3-S36-NIC2	R3-SW1-P36
R3-S37-IPMI	R3-SW2-P37	R3-S37-PCI	R2-SW1-M14-P8	R3-S37-NIC2	R3-SW1-P37
R3-S38-IPMI	R3-SW2-P38	R3-S38-PCI	R2-SW1-M14-P9	R3-S38-NIC2	R3-SW1-P38
R3-S39-IPMI	R3-SW2-P39	R3-S39-PCI	R2-SW1-M14-P10	R3-S39-NIC2	R3-SW1-P39
R3-S40-IPMI	R3-SW2-P40	R3-S40-PCI	R2-SW1-M14-P11	R3-S40-NIC2	R3-SW1-P40
R4-S1-IPMI	R4-SW2-P1	R4-S1-PCI	R2-SW1-M14-P12	R4-S1-NIC2	R4-SW1-P1
R4-S2-IPMI	R4-SW2-P2	R4-S2-PCI	R2-SW1-M14-P13	R4-S2-NIC2	R4-SW1-P2
R4-S3-IPMI	R4-SW2-P3	R4-S3-PCI	R2-SW1-M14-P14	R4-S3-NIC2	R4-SW1-P3
R4-S4-IPMI	R4-SW2-P4	R4-S4-PCI	R2-SW1-M14-P15	R4-S4-NIC2	R4-SW1-P4
R4-S5-IPMI	R4-SW2-P5	R4-S5-PCI	R2-SW1-M15-P8	R4-S5-NIC2	R4-SW1-P5
R4-S6-IPMI	R4-SW2-P6	R4-S6-PCI	R2-SW1-M15-P9	R4-S6-NIC2	R4-SW1-P6
R4-S7-IPMI	R4-SW2-P7	R4-S7-PCI	R2-SW1-M15-P10	R4-S7-NIC2	R4-SW1-P7
R4-S8-IPMI	R4-SW2-P8	R4-S8-PCI	R2-SW1-M15-P11	R4-S8-NIC2	R4-SW1-P8
R4-S9-IPMI	R4-SW2-P9	R4-S9-PCI	R2-SW1-M15-P12	R4-S9-NIC2	R4-SW1-P9
R4-S10-IPMI	R4-SW2-P10	R4-S10-PCI	R2-SW1-M15-P13	R4-S10-NIC2	R4-SW1-P10
R4-S11-IPMI	R4-SW2-P11	R4-S11-PCI	R2-SW1-M15-P14	R4-S11-NIC2	R4-SW1-P11
R4-S12-IPMI	R4-SW2-P12	R4-S12-PCI	R2-SW1-M15-P15	R4-S12-NIC2	R4-SW1-P12
R4-S13-IPMI	R4-SW2-P13	R4-S13-PCI	R2-SW1-M16-P8	R4-S13-NIC2	R4-SW1-P13
R4-S14-IPMI	R4-SW2-P14	R4-S14-PCI	R2-SW1-M16-P9	R4-S14-NIC2	R4-SW1-P14
R4-S15-IPMI	R4-SW2-P15	R4-S15-PCI	R2-SW1-M16-P10	R4-S15-NIC2	R4-SW1-P15
R4-S16-IPMI	R4-SW2-P16	R4-S16-PCI	R2-SW1-M16-P11	R4-S16-NIC2	R4-SW1-P16
R4-S17-IPMI	R4-SW2-P17	R4-S17-PCI	R2-SW1-M16-P12	R4-S17-NIC2	R4-SW1-P17
R4-S18-IPMI	R4-SW2-P18	R4-S18-PCI	R2-SW1-M16-P13	R4-S18-NIC2	R4-SW1-P18
R4-S19-IPMI	R4-SW2-P19	R4-S19-PCI	R2-SW1-M16-P14	R4-S19-NIC2	R4-SW1-P19
R4-S20-IPMI	R4-SW2-P20	R4-S20-PCI	R2-SW1-M16-P15	R4-S20-NIC2	R4-SW1-P20

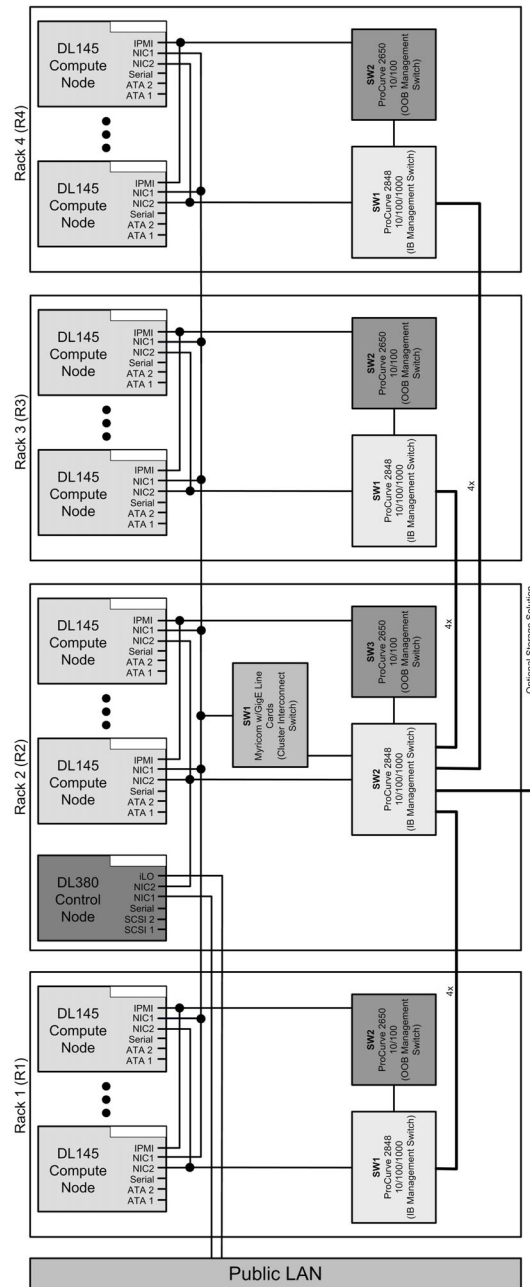
**Table 11-3: Myricom Monitor**

From	To
R2-SW1-M17-P1	R2-SW2-P47

Table 11-4: OOB Management Switch Uplink	
From	To
R1-SW2-P48	R1-SW1-P48
R2-SW3-P48	R2-SW2-P48
R3-SW2-P48	R3-SW1-P48
R4-SW2-P48	R4-SW1-P48

Table 11-5: IB Management Switch Uplink		
From	To	
R2-SW2-P46	R1-SW1-P47	Trunked together
R2-SW2-P45	R1-SW1-P46	
R2-SW2-P44	R1-SW1-P45	
R2-SW2-P43	R1-SW1-P44	
R2-SW2-P42	R3-SW1-P47	Trunked together
R2-SW2-P41	R3-SW1-P46	
R2-SW2-P40	R3-SW1-P45	
R2-SW2-P39	R3-SW1-P44	
R2-SW2-P38	R4-SW1-P47	Trunked together
R2-SW2-P37	R4-SW1-P46	
R2-SW2-P36	R4-SW1-P45	
R2-SW2-P35	R4-SW1-P44	

## 64 Node GigE Expandable to 128 Nodes





## Rack Diagram

Rack 1 (R1)		Rack 2 (R2)		Rack 3 (R3)		Rack 4 (R4)	
42	S40 Expansion	S29 DL145		S40 Expansion			
41	S39 Expansion	S28 DL145		S39 Expansion			
40	S38 Expansion	S27 DL145		S38 Expansion			
39	S37 Expansion	S26 DL145		S37 Expansion			
38	S36 DL145	S25 DL145		S36 Expansion			
37	S35 DL145	S24 DL145		S35 Expansion			
36	S34 DL145	S23 DL145		S34 Expansion			
35	S33 DL145	S22 DL145		S33 Expansion			
34	S32 DL145	S21 DL145		S32 Expansion			
33	S31 DL145	S20 DL145		S31 Expansion			
32	S30 DL145	S19 DL145		S30 Expansion			
31	S29 DL145	S18 DL145		S29 Expansion			
30	S28 DL145	S17 DL380 or DL145		S28 Expansion			
29	S27 DL145	S16 DL145		S27 Expansion			
28	S26 DL145	S15 DL145		S26 Expansion			
27	S25 DL145	S14 DL145		S25 Expansion			
26	S24 DL145	S13 DL145		S24 Expansion			
25	S23 DL145	S12 DL145		S23 Expansion			
24	S22 DL145	S11 DL145		S22 Expansion			
23	S21 DL145	SW3 ProCurve 2650		S21 Expansion			
22	SW2 ProCurve 2650	SW2 ProCurve 2848		SW2 Expansion	SW2 Expansion		
21	SW1 ProCurve 2848	TFT5600		SW1 Expansion	SW1 Expansion		
20	S20 DL145	S10 DL145		S20 Expansion	S20 Expansion		
19	S19 DL145	S9 DL145		S19 Expansion	S19 Expansion		
18	S18 DL145	S8 DL145		S18 Expansion	S18 Expansion		
17	S17 DL145	S7 DL145		S17 Expansion	S17 Expansion		
16	S16 DL145	S6 DL145		S16 Expansion	S16 Expansion		
15	S15 DL145	S5 DL145		S15 Expansion	S15 Expansion		
14	S14 DL145	S4 DL145		S14 Expansion	S14 Expansion		
13	S13 DL145	S3 DL145		S13 Expansion	S13 Expansion		
12	S12 DL145	S2 DL145		S12 Expansion	S12 Expansion		
11	S11 DL145	S1 DL145		S11 Expansion	S11 Expansion		
10	S10 DL145	SW1 Myricom 17 slot chassis w/GigE line cards		S10 Expansion	S10 Expansion		
9	S9 DL145			S9 Expansion	S9 Expansion		
8	S8 DL145			S8 Expansion	S8 Expansion		
7	S7 DL145			S7 Expansion	S7 Expansion		
6	S6 DL145			S6 Expansion	S6 Expansion		
5	S5 DL145			S5 Expansion	S5 Expansion		
4	S4 DL145			S4 Expansion	S4 Expansion		
3	S3 DL145			S3 Expansion	S3 Expansion		
2	S2 DL145			S2 Expansion	S2 Expansion		
1	S1 DL145			S1 Expansion	S1 Expansion		

## Point-to-Point Cabling Guide

**Table 12-1: Cable Label Nomenclature**

Symbol	Description
R	Rack number
S	Control/Compute/Storage node number
SW	Out of Band (OOB) Management Switch/Cluster Interconnect Switch/In Band (IB) Management Switch number
M	Module letter or Module number
P	Port number
NIC	NIC port number
IPMI	IPMI port

**Table 12-2: 64 Node GigE Cabling for DL145 LC Clusters Expandable to 128 Nodes**

OOB Switch Cabling		Cluster Interconnect Switch Cabling		IB Management Switch Cabling	
Origin (server)	Destination (switch)	Origin (server)	Destination (switch)	Origin (server)	Destination (switch)
R1-S1-IPMI	R1-SW2-P1	R1-S1-NIC1	R2-SW1-M4-P12	R1-S1-NIC2	R1-SW1-P1
R1-S2-IPMI	R1-SW2-P2	R1-S2-NIC1	R2-SW1-M4-P13	R1-S2-NIC2	R1-SW1-P2
R1-S3-IPMI	R1-SW2-P3	R1-S3-NIC1	R2-SW1-M4-P14	R1-S3-NIC2	R1-SW1-P3
R1-S4-IPMI	R1-SW2-P4	R1-S4-NIC1	R2-SW1-M4-P15	R1-S4-NIC2	R1-SW1-P4
R1-S5-IPMI	R1-SW2-P5	R1-S5-NIC1	R2-SW1-M5-P8	R1-S5-NIC2	R1-SW1-P5
R1-S6-IPMI	R1-SW2-P6	R1-S6-NIC1	R2-SW1-M5-P9	R1-S6-NIC2	R1-SW1-P6
R1-S7-IPMI	R1-SW2-P7	R1-S7-NIC1	R2-SW1-M5-P10	R1-S7-NIC2	R1-SW1-P7
R1-S8-IPMI	R1-SW2-P8	R1-S8-NIC1	R2-SW1-M5-P11	R1-S8-NIC2	R1-SW1-P8
R1-S9-IPMI	R1-SW2-P9	R1-S9-NIC1	R2-SW1-M5-P12	R1-S9-NIC2	R1-SW1-P9
R1-S10-IPMI	R1-SW2-P10	R1-S10-NIC1	R2-SW1-M5-P13	R1-S10-NIC2	R1-SW1-P10
R1-S11-IPMI	R1-SW2-P11	R1-S11-NIC1	R2-SW1-M5-P14	R1-S11-NIC2	R1-SW1-P11
R1-S12-IPMI	R1-SW2-P12	R1-S12-NIC1	R2-SW1-M5-P15	R1-S12-NIC2	R1-SW1-P12
R1-S13-IPMI	R1-SW2-P13	R1-S13-NIC1	R2-SW1-M6-P8	R1-S13-NIC2	R1-SW1-P13

*continued*

**Table 12-2: 64 Node GigE Cabling for DL145 LC Clusters Expandable to 128 Nodes** *continued*

OOB Switch Cabling		Cluster Interconnect Switch Cabling		IB Management Switch Cabling	
Origin (server)	Destination (switch)	Origin (server)	Destination (switch)	Origin (server)	Destination (switch)
R1-S14-IPMI	R1-SW2-P14	R1-S14-NIC1	R2-SW1-M6-P9	R1-S14-NIC2	R1-SW1-P14
R1-S15-IPMI	R1-SW2-P15	R1-S15-NIC1	R2-SW1-M6-P10	R1-S15-NIC2	R1-SW1-P15
R1-S16-IPMI	R1-SW2-P16	R1-S16-NIC1	R2-SW1-M6-P11	R1-S16-NIC2	R1-SW1-P16
R1-S17-IPMI	R1-SW2-P17	R1-S17-NIC1	R2-SW1-M6-P12	R1-S17-NIC2	R1-SW1-P17
R1-S18-IPMI	R1-SW2-P18	R1-S18-NIC1	R2-SW1-M6-P13	R1-S18-NIC2	R1-SW1-P18
R1-S19-IPMI	R1-SW2-P19	R1-S19-NIC1	R2-SW1-M6-P14	R1-S19-NIC2	R1-SW1-P19
R1-S20-IPMI	R1-SW2-P20	R1-S20-NIC1	R2-SW1-M6-P15	R1-S20-NIC2	R1-SW1-P20
R1-S21-IPMI	R1-SW2-P21	R1-S21-NIC1	R2-SW1-M7-P8	R1-S21-NIC2	R1-SW1-P21
R1-S22-IPMI	R1-SW2-P22	R1-S22-NIC1	R2-SW1-M7-P9	R1-S22-NIC2	R1-SW1-P22
R1-S23-IPMI	R1-SW2-P23	R1-S23-NIC1	R2-SW1-M7-P10	R1-S23-NIC2	R1-SW1-P23
R1-S24-IPMI	R1-SW2-P24	R1-S24-NIC1	R2-SW1-M7-P11	R1-S24-NIC2	R1-SW1-P24
R1-S25-IPMI	R1-SW2-P25	R1-S25-NIC1	R2-SW1-M7-P12	R1-S25-NIC2	R1-SW1-P25
R1-S26-IPMI	R1-SW2-P26	R1-S26-NIC1	R2-SW1-M7-P13	R1-S26-NIC2	R1-SW1-P26
R1-S27-IPMI	R1-SW2-P27	R1-S27-NIC1	R2-SW1-M7-P14	R1-S27-NIC2	R1-SW1-P27
R1-S28-IPMI	R1-SW2-P28	R1-S28-NIC1	R2-SW1-M7-P15	R1-S28-NIC2	R1-SW1-P28
R1-S29-IPMI	R1-SW2-P29	R1-S29-NIC1	R2-SW1-M8-P8	R1-S29-NIC2	R1-SW1-P29
R1-S30-IPMI	R1-SW2-P30	R1-S30-NIC1	R2-SW1-M8-P9	R1-S30-NIC2	R1-SW1-P30
R1-S31-IPMI	R1-SW2-P31	R1-S31-NIC1	R2-SW1-M8-P10	R1-S31-NIC2	R1-SW1-P31
R1-S32-IPMI	R1-SW2-P32	R1-S32-NIC1	R2-SW1-M8-P11	R1-S32-NIC2	R1-SW1-P32
R1-S33-IPMI	R1-SW2-P33	R1-S33-NIC1	R2-SW1-M8-P12	R1-S33-NIC2	R1-SW1-P33
R1-S34-IPMI	R1-SW2-P34	R1-S34-NIC1	R2-SW1-M8-P13	R1-S34-NIC2	R1-SW1-P34
R1-S35-IPMI	R1-SW2-P35	R1-S35-NIC1	R2-SW1-M8-P14	R1-S35-NIC2	R1-SW1-P35
R1-S36-IPMI	R1-SW2-P36	R1-S36-NIC1	R2-SW1-M8-P15	R1-S36-NIC2	R1-SW1-P36
R1-S37-IPMI	R1-SW2-P37	R1-S37-NIC1	R2-SW1-M9-P8	R1-S37-NIC2	R1-SW1-P37
R1-S38-IPMI	R1-SW2-P38	R1-S38-NIC1	R2-SW1-M9-P9	R1-S38-NIC2	R1-SW1-P38
R1-S39-IPMI	R1-SW2-P39	R1-S39-NIC1	R2-SW1-M9-P10	R1-S39-NIC2	R1-SW1-P39
R1-S40-IPMI	R1-SW2-P40	R1-S40-NIC1	R2-SW1-M9-P11	R1-S40-NIC2	R1-SW1-P40
R2-S1-IPMI	R2-SW3-P1	R2-S1-NIC1	R2-SW1-M1-P8	R2-S1-NIC2	R2-SW2-P1
R2-S2-IPMI	R2-SW3-P2	R2-S2-NIC1	R2-SW1-M1-P9	R2-S2-NIC2	R2-SW2-P2
R2-S3-IPMI	R2-SW3-P3	R2-S3-NIC1	R2-SW1-M1-P10	R2-S3-NIC2	R2-SW2-P3

*continued*

**Table 12-2: 64 Node GigE Cabling for DL145 LC Clusters Expandable to 128 Nodes** *continued*

OOB Switch Cabling		Cluster Interconnect Switch Cabling		IB Management Switch Cabling	
Origin (server)	Destination (switch)	Origin (server)	Destination (switch)	Origin (server)	Destination (switch)
R2-S4-IPMI	R2-SW3-P4	R2-S4-NIC1	R2-SW1-M1-P11	R2-S4-NIC2	R2-SW2-P4
R2-S5-IPMI	R2-SW3-P5	R2-S5-NIC1	R2-SW1-M1-P12	R2-S5-NIC2	R2-SW2-P5
R2-S6-IPMI	R2-SW3-P6	R2-S6-NIC1	R2-SW1-M1-P13	R2-S6-NIC2	R2-SW2-P6
R2-S7-IPMI	R2-SW3-P7	R2-S7-NIC1	R2-SW1-M1-P14	R2-S7-NIC2	R2-SW2-P7
R2-S8-IPMI	R2-SW3-P8	R2-S8-NIC1	R2-SW1-M1-P15	R2-S8-NIC2	R2-SW2-P8
R2-S9-IPMI	R2-SW3-P9	R2-S9-NIC1	R2-SW1-M2-P8	R2-S9-NIC2	R2-SW2-P9
R2-S10-IPMI	R2-SW3-P10	R2-S10-NIC1	R2-SW1-M2-P9	R2-S10-NIC2	R2-SW2-P10
R2-S11-IPMI	R2-SW3-P11	R2-S11-NIC1	R2-SW1-M2-P10	R2-S11-NIC2	R2-SW2-P11
R2-S12-IPMI	R2-SW3-P12	R2-S12-NIC1	R2-SW1-M2-P11	R2-S12-NIC2	R2-SW2-P12
R2-S13-IPMI	R2-SW3-P13	R2-S13-NIC1	R2-SW1-M2-P12	R2-S13-NIC2	R2-SW2-P13
R2-S14-IPMI	R2-SW3-P14	R2-S14-NIC1	R2-SW1-M2-P13	R2-S14-NIC2	R2-SW2-P14
R2-S15-IPMI	R2-SW3-P15	R2-S15-NIC1	R2-SW1-M2-P14	R2-S15-NIC2	R2-SW2-P15
R2-S16-IPMI	R2-SW3-P16	R2-S16-NIC1	R2-SW1-M2-P15	R2-S16-NIC2	R2-SW2-P16
N/A	N/A	N/A	N/A	R2-S17-NIC2	R2-SW2-P17
R2-S18-IPMI	R2-SW3-P18	R2-S18-NIC1	R2-SW1-M3-P8	R2-S18-NIC2	R2-SW2-P18
R2-S19-IPMI	R2-SW3-P19	R2-S19-NIC1	R2-SW1-M3-P9	R2-S19-NIC2	R2-SW2-P19
R2-S20-IPMI	R2-SW3-P20	R2-S20-NIC1	R2-SW1-M3-P10	R2-S20-NIC2	R2-SW2-P20
R2-S21-IPMI	R2-SW3-P21	R2-S21-NIC1	R2-SW1-M3-P11	R2-S21-NIC2	R2-SW2-P21
R2-S22-IPMI	R2-SW3-P22	R2-S22-NIC1	R2-SW1-M3-P12	R2-S22-NIC2	R2-SW2-P22
R2-S23-IPMI	R2-SW3-P23	R2-S23-NIC1	R2-SW1-M3-P13	R2-S23-NIC2	R2-SW2-P23
R2-S24-IPMI	R2-SW3-P24	R2-S24-NIC1	R2-SW1-M3-P14	R2-S24-NIC2	R2-SW2-P24
R2-S25-IPMI	R2-SW3-P25	R2-S25-NIC1	R2-SW1-M3-P15	R2-S25-NIC2	R2-SW2-P25
R2-S26-IPMI	R2-SW3-P26	R2-S26-NIC1	R2-SW1-M4-P8	R2-S26-NIC2	R2-SW2-P26
R2-S27-IPMI	R2-SW3-P27	R2-S27-NIC1	R2-SW1-M4-P9	R2-S27-NIC2	R2-SW2-P27
R2-S28-IPMI	R2-SW3-P28	R2-S28-NIC1	R2-SW1-M4-P10	R2-S28-NIC2	R2-SW2-P28
R2-S29-IPMI	R2-SW3-P29	R2-S29-NIC1	R2-SW1-M4-P11	R2-S29-NIC2	R2-SW2-P29
R3-S1-IPMI	R3-SW2-P1	R3-S1-NIC1	R2-SW1-M9-P12	R3-S1-NIC2	R3-SW1-P1
R3-S2-IPMI	R3-SW2-P2	R3-S2-NIC1	R2-SW1-M9-P13	R3-S2-NIC2	R3-SW1-P2
R3-S3-IPMI	R3-SW2-P3	R3-S3-NIC1	R2-SW1-M9-P14	R3-S3-NIC2	R3-SW1-P3
R3-S4-IPMI	R3-SW2-P4	R3-S4-NIC1	R2-SW1-M9-P15	R3-S4-NIC2	R3-SW1-P4

*continued*

**Table 12-2: 64 Node GigE Cabling for DL145 LC Clusters Expandable to 128 Nodes** *continued*

OOB Switch Cabling		Cluster Interconnect Switch Cabling		IB Management Switch Cabling	
Origin (server)	Destination (switch)	Origin (server)	Destination (switch)	Origin (server)	Destination (switch)
R3-S5-IPMI	R3-SW2-P5	R3-S5-NIC1	R2-SW1-M10-P8	R3-S5-NIC2	R3-SW1-P5
R3-S6-IPMI	R3-SW2-P6	R3-S6-NIC1	R2-SW1-M10-P9	R3-S6-NIC2	R3-SW1-P6
R3-S7-IPMI	R3-SW2-P7	R3-S7-NIC1	R2-SW1-M10-P10	R3-S7-NIC2	R3-SW1-P7
R3-S8-IPMI	R3-SW2-P8	R3-S8-NIC1	R2-SW1-M10-P11	R3-S8-NIC2	R3-SW1-P8
R3-S9-IPMI	R3-SW2-P9	R3-S9-NIC1	R2-SW1-M10-P12	R3-S9-NIC2	R3-SW1-P9
R3-S10-IPMI	R3-SW2-P10	R3-S10-NIC1	R2-SW1-M10-P13	R3-S10-NIC2	R3-SW1-P10
R3-S11-IPMI	R3-SW2-P11	R3-S11-NIC1	R2-SW1-M10-P14	R3-S11-NIC2	R3-SW1-P11
R3-S12-IPMI	R3-SW2-P12	R3-S12-NIC1	R2-SW1-M10-P15	R3-S12-NIC2	R3-SW1-P12
R3-S13-IPMI	R3-SW2-P13	R3-S13-NIC1	R2-SW1-M11-P8	R3-S13-NIC2	R3-SW1-P13
R3-S14-IPMI	R3-SW2-P14	R3-S14-NIC1	R2-SW1-M11-P9	R3-S14-NIC2	R3-SW1-P14
R3-S15-IPMI	R3-SW2-P15	R3-S15-NIC1	R2-SW1-M11-P10	R3-S15-NIC2	R3-SW1-P15
R3-S16-IPMI	R3-SW2-P16	R3-S16-NIC1	R2-SW1-M11-P11	R3-S16-NIC2	R3-SW1-P16
R3-S17-IPMI	R3-SW2-P17	R3-S17-NIC1	R2-SW1-M11-P12	R3-S17-NIC2	R3-SW1-P17
R3-S18-IPMI	R3-SW2-P18	R3-S18-NIC1	R2-SW1-M11-P13	R3-S18-NIC2	R3-SW1-P18
R3-S19-IPMI	R3-SW2-P19	R3-S19-NIC1	R2-SW1-M11-P14	R3-S19-NIC2	R3-SW1-P19
R3-S20-IPMI	R3-SW2-P20	R3-S20-NIC1	R2-SW1-M11-P15	R3-S20-NIC2	R3-SW1-P20
R3-S21-IPMI	R3-SW2-P21	R3-S21-NIC1	R2-SW1-M12-P8	R3-S21-NIC2	R3-SW1-P21
R3-S22-IPMI	R3-SW2-P22	R3-S22-NIC1	R2-SW1-M12-P9	R3-S22-NIC2	R3-SW1-P22
R3-S23-IPMI	R3-SW2-P23	R3-S23-NIC1	R2-SW1-M12-P10	R3-S23-NIC2	R3-SW1-P23
R3-S24-IPMI	R3-SW2-P24	R3-S24-NIC1	R2-SW1-M12-P11	R3-S24-NIC2	R3-SW1-P24
R3-S25-IPMI	R3-SW2-P25	R3-S25-NIC1	R2-SW1-M12-P12	R3-S25-NIC2	R3-SW1-P25
R3-S26-IPMI	R3-SW2-P26	R3-S26-NIC1	R2-SW1-M12-P13	R3-S26-NIC2	R3-SW1-P26
R3-S27-IPMI	R3-SW2-P27	R3-S27-NIC1	R2-SW1-M12-P14	R3-S27-NIC2	R3-SW1-P27
R3-S28-IPMI	R3-SW2-P28	R3-S28-NIC1	R2-SW1-M12-P15	R3-S28-NIC2	R3-SW1-P28
R3-S29-IPMI	R3-SW2-P29	R3-S29-NIC1	R2-SW1-M13-P8	R3-S29-NIC2	R3-SW1-P29
R3-S30-IPMI	R3-SW2-P30	R3-S30-NIC1	R2-SW1-M13-P9	R3-S30-NIC2	R3-SW1-P30
R3-S31-IPMI	R3-SW2-P31	R3-S31-NIC1	R2-SW1-M13-P10	R3-S31-NIC2	R3-SW1-P31
R3-S32-IPMI	R3-SW2-P32	R3-S32-NIC1	R2-SW1-M13-P11	R3-S32-NIC2	R3-SW1-P32
R3-S33-IPMI	R3-SW2-P33	R3-S33-NIC1	R2-SW1-M13-P12	R3-S33-NIC2	R3-SW1-P33
R3-S34-IPMI	R3-SW2-P34	R3-S34-NIC1	R2-SW1-M13-P13	R3-S34-NIC2	R3-SW1-P34

*continued*

**Table 12-2: 64 Node GigE Cabling for DL145 LC Clusters Expandable to 128 Nodes** *continued*

OOB Switch Cabling		Cluster Interconnect Switch Cabling		IB Management Switch Cabling	
Origin (server)	Destination (switch)	Origin (server)	Destination (switch)	Origin (server)	Destination (switch)
R3-S35-IPMI	R3-SW2-P35	R3-S35-NIC1	R2-SW1-M13-P14	R3-S35-NIC2	R3-SW1-P35
R3-S36-IPMI	R3-SW2-P36	R3-S36-NIC1	R2-SW1-M13-P15	R3-S36-NIC2	R3-SW1-P36
R3-S37-IPMI	R3-SW2-P37	R3-S37-NIC1	R2-SW1-M14-P8	R3-S37-NIC2	R3-SW1-P37
R3-S38-IPMI	R3-SW2-P38	R3-S38-NIC1	R2-SW1-M14-P9	R3-S38-NIC2	R3-SW1-P38
R3-S39-IPMI	R3-SW2-P39	R3-S39-NIC1	R2-SW1-M14-P10	R3-S39-NIC2	R3-SW1-P39
R3-S40-IPMI	R3-SW2-P40	R3-S40-NIC1	R2-SW1-M14-P11	R3-S40-NIC2	R3-SW1-P40
R4-S1-IPMI	R4-SW2-P1	R4-S1-NIC1	R2-SW1-M14-P12	R4-S1-NIC2	R4-SW1-P1
R4-S2-IPMI	R4-SW2-P2	R4-S2-NIC1	R2-SW1-M14-P13	R4-S2-NIC2	R4-SW1-P2
R4-S3-IPMI	R4-SW2-P3	R4-S3-NIC1	R2-SW1-M14-P14	R4-S3-NIC2	R4-SW1-P3
R4-S4-IPMI	R4-SW2-P4	R4-S4-NIC1	R2-SW1-M14-P15	R4-S4-NIC2	R4-SW1-P4
R4-S5-IPMI	R4-SW2-P5	R4-S5-NIC1	R2-SW1-M15-P8	R4-S5-NIC2	R4-SW1-P5
R4-S6-IPMI	R4-SW2-P6	R4-S6-NIC1	R2-SW1-M15-P9	R4-S6-NIC2	R4-SW1-P6
R4-S7-IPMI	R4-SW2-P7	R4-S7-NIC1	R2-SW1-M15-P10	R4-S7-NIC2	R4-SW1-P7
R4-S8-IPMI	R4-SW2-P8	R4-S8-NIC1	R2-SW1-M15-P11	R4-S8-NIC2	R4-SW1-P8
R4-S9-IPMI	R4-SW2-P9	R4-S9-NIC1	R2-SW1-M15-P12	R4-S9-NIC2	R4-SW1-P9
R4-S10-IPMI	R4-SW2-P10	R4-S10-NIC1	R2-SW1-M15-P13	R4-S10-NIC2	R4-SW1-P10
R4-S11-IPMI	R4-SW2-P11	R4-S11-NIC1	R2-SW1-M15-P14	R4-S11-NIC2	R4-SW1-P11
R4-S12-IPMI	R4-SW2-P12	R4-S12-NIC1	R2-SW1-M15-P15	R4-S12-NIC2	R4-SW1-P12
R4-S13-IPMI	R4-SW2-P13	R4-S13-NIC1	R2-SW1-M16-P8	R4-S13-NIC2	R4-SW1-P13
R4-S14-IPMI	R4-SW2-P14	R4-S14-NIC1	R2-SW1-M16-P9	R4-S14-NIC2	R4-SW1-P14
R4-S15-IPMI	R4-SW2-P15	R4-S15-NIC1	R2-SW1-M16-P10	R4-S15-NIC2	R4-SW1-P15
R4-S16-IPMI	R4-SW2-P16	R4-S16-NIC1	R2-SW1-M16-P11	R4-S16-NIC2	R4-SW1-P16
R4-S17-IPMI	R4-SW2-P17	R4-S17-NIC1	R2-SW1-M16-P12	R4-S17-NIC2	R4-SW1-P17
R4-S18-IPMI	R4-SW2-P18	R4-S18-NIC1	R2-SW1-M16-P13	R4-S18-NIC2	R4-SW1-P18
R4-S19-IPMI	R4-SW2-P19	R4-S19-NIC1	R2-SW1-M16-P14	R4-S19-NIC2	R4-SW1-P19
R4-S20-IPMI	R4-SW2-P20	R4-S20-NIC1	R2-SW1-M16-P15	R4-S20-NIC2	R4-SW1-P20

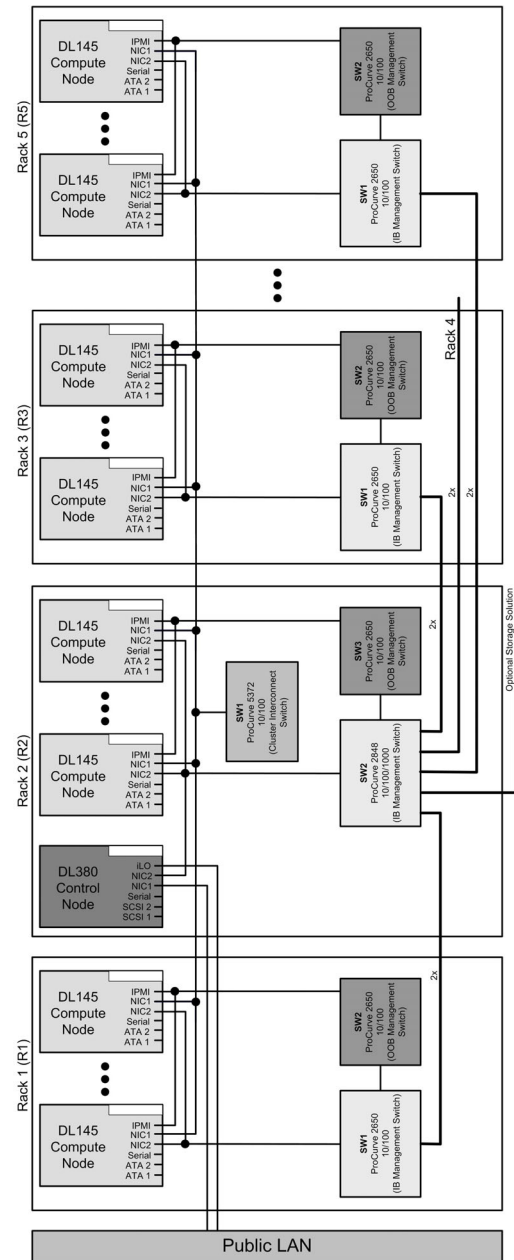
**Table 12-3: Myricom Monitor**

From	To
R2-SW1-M17-P1	R2-SW2-P47

Table 12-4: OOB Management Switch Uplink	
From	To
R1-SW2-P48	R1-SW1-P48
R2-SW3-P48	R2-SW2-P48
R3-SW2-P48	R3-SW1-P48
R4-SW2-P48	R4-SW1-P48

Table 12-5: IB Management Switch Uplink		
From	To	
R2-SW2-P46	R1-SW1-P47	Trunked together
R2-SW2-P45	R1-SW1-P46	
R2-SW2-P44	R1-SW1-P45	
R2-SW2-P43	R1-SW1-P44	
R2-SW2-P42	R3-SW1-P47	Trunked together
R2-SW2-P41	R3-SW1-P46	
R2-SW2-P40	R3-SW1-P45	
R2-SW2-P39	R3-SW1-P44	
R2-SW2-P38	R4-SW1-P47	Trunked together
R2-SW2-P37	R4-SW1-P46	
R2-SW2-P36	R4-SW1-P45	
R2-SW2-P35	R4-SW1-P44	

## 64 Node Fast Ethernet Expandable to 192 Nodes





# Rack Diagram

Rack 1 (R1)		Rack 2 (R2)		Rack 3 (R3)		Rack 4 (R4)		Rack 5 (R5)	
42	S40 Expansion	S33 DL145		S40 Expansion		S40 Expansion		S40 Expansion	
41	S39 Expansion	S32 DL145		S39 Expansion		S39 Expansion		S39 Expansion	
40	S38 Expansion	S31 DL145		S38 Expansion		S38 Expansion		S38 Expansion	
39	S37 Expansion	S30 DL145		S37 Expansion		S37 Expansion		S37 Expansion	
38	S36 Expansion	S29 DL145		S36 Expansion		S36 Expansion		S36 Expansion	
37	S35 Expansion	S28 DL145		S35 Expansion		S35 Expansion		S35 Expansion	
36	S34 Expansion	S27 DL145		S34 Expansion		S34 Expansion		S34 Expansion	
35	S33 Expansion	S26 DL145		S33 Expansion		S33 Expansion		S33 Expansion	
34	S32 DL145	S25 DL145		S32 Expansion		S32 Expansion		S32 Expansion	
33	S31 DL145	S24 DL145		S31 Expansion		S31 Expansion		S31 Expansion	
32	S30 DL145	S23 DL145		S30 Expansion		S30 Expansion		S30 Expansion	
31	S29 DL145	S22 DL145		S29 Expansion		S29 Expansion		S29 Expansion	
30	S28 DL145	S21 DL380 or DL145		S28 Expansion		S28 Expansion		S28 Expansion	
29	S27 DL145	S20 DL145		S27 Expansion		S27 Expansion		S27 Expansion	
28	S26 DL145	S19 DL145		S26 Expansion		S26 Expansion		S26 Expansion	
27	S25 DL145	S18 DL145		S25 Expansion		S25 Expansion		S25 Expansion	
26	S24 DL145	S17 DL145		S24 Expansion		S24 Expansion		S24 Expansion	
25	S23 DL145	S16 DL145		S23 Expansion		S23 Expansion		S23 Expansion	
24	S22 DL145	S15 DL145		S22 Expansion		S22 Expansion		S22 Expansion	
23	S21 DL145	SW3 ProCurve 2650		S21 Expansion		S21 Expansion		S21 Expansion	
22	SW2 ProCurve 2650	SW2 ProCurve 2848		SW2 Expansion		SW2 Expansion		SW2 Expansion	
21	SW1 ProCurve 2650	TFT5600		SW1 Expansion		SW1 Expansion		SW1 Expansion	
20	S20 DL145	S14 DL145		S20 Expansion		S20 Expansion		S20 Expansion	
19	S19 DL145	S13 DL145		S19 Expansion		S19 Expansion		S19 Expansion	
18	S18 DL145	S12 DL145		S18 Expansion		S18 Expansion		S18 Expansion	
17	S17 DL145	S11 DL145		S17 Expansion		S17 Expansion		S17 Expansion	
16	S16 DL145	S10 DL145		S16 Expansion		S16 Expansion		S16 Expansion	
15	S15 DL145	S9 DL145		S15 Expansion		S15 Expansion		S15 Expansion	
14	S14 DL145	S8 DL145		S14 Expansion		S14 Expansion		S14 Expansion	
13	S13 DL145	S7 DL145		S13 Expansion		S13 Expansion		S13 Expansion	
12	S12 DL145	S6 DL145		S12 Expansion		S12 Expansion		S12 Expansion	
11	S11 DL145	S5 DL145		S11 Expansion		S11 Expansion		S11 Expansion	
10	S10 DL145	S4 DL145		S10 Expansion		S10 Expansion		S10 Expansion	
9	S9 DL145	S3 DL145		S9 Expansion		S9 Expansion		S9 Expansion	
8	S8 DL145	S2 DL145		S8 Expansion		S8 Expansion		S8 Expansion	
7	S7 DL145	S1 DL145		S7 Expansion		S7 Expansion		S7 Expansion	
6	S6 DL145	SW1 ProCurve 5372		S6 Expansion		S6 Expansion		S6 Expansion	
5	S5 DL145			S5 Expansion		S5 Expansion		S5 Expansion	
4	S4 DL145			S4 Expansion		S4 Expansion		S4 Expansion	
3	S3 DL145			S3 Expansion		S3 Expansion		S3 Expansion	
2	S2 DL145			S2 Expansion		S2 Expansion		S2 Expansion	
1	S1 DL145			S1 Expansion		S1 Expansion		S1 Expansion	

## Point-to-Point Cabling Guide

**Table 13-1: Cable Label Nomenclature**

Symbol	Description
R	Rack number
S	Control/Compute/Storage node number
SW	Out of Band (OOB) Management Switch/Cluster Interconnect Switch/In Band (IB) Management Switch number
M	Module letter or Module number
P	Port number
NIC	NIC port number
IPMI	IPMI port

**Table 13-2: 64 Node Fast Ethernet Cabling for DL145 LC Clusters Expandable to 192 Nodes**

OOB Switch Cabling		Cluster Interconnect Switch Cabling		IB Management Switch Cabling	
Origin (server)	Destination (switch)	Origin (server)	Destination (switch)	Origin (server)	Destination (switch)
R1-S1-IPMI	R1-SW2-P1	R1-S1-NIC1	R2-SW1-MC-P9	R1-S1-NIC2	R1-SW1-P1
R1-S2-IPMI	R1-SW2-P2	R1-S2-NIC1	R2-SW1-MC-P10	R1-S2-NIC2	R1-SW1-P2
R1-S3-IPMI	R1-SW2-P3	R1-S3-NIC1	R2-SW1-MC-P11	R1-S3-NIC2	R1-SW1-P3
R1-S4-IPMI	R1-SW2-P4	R1-S4-NIC1	R2-SW1-MC-P12	R1-S4-NIC2	R1-SW1-P4
R1-S5-IPMI	R1-SW2-P5	R1-S5-NIC1	R2-SW1-MC-P13	R1-S5-NIC2	R1-SW1-P5
R1-S6-IPMI	R1-SW2-P6	R1-S6-NIC1	R2-SW1-MC-P14	R1-S6-NIC2	R1-SW1-P6
R1-S7-IPMI	R1-SW2-P7	R1-S7-NIC1	R2-SW1-MC-P15	R1-S7-NIC2	R1-SW1-P7
R1-S8-IPMI	R1-SW2-P8	R1-S8-NIC1	R2-SW1-MC-P16	R1-S8-NIC2	R1-SW1-P8
R1-S9-IPMI	R1-SW2-P9	R1-S9-NIC1	R2-SW1-MC-P17	R1-S9-NIC2	R1-SW1-P9
R1-S10-IPMI	R1-SW2-P10	R1-S10-NIC1	R2-SW1-MC-P18	R1-S10-NIC2	R1-SW1-P10
R1-S11-IPMI	R1-SW2-P11	R1-S11-NIC1	R2-SW1-MC-P19	R1-S11-NIC2	R1-SW1-P11
R1-S12-IPMI	R1-SW2-P12	R1-S12-NIC1	R2-SW1-MC-P20	R1-S12-NIC2	R1-SW1-P12
R1-S13-IPMI	R1-SW2-P13	R1-S13-NIC1	R2-SW1-MC-P21	R1-S13-NIC2	R1-SW1-P13

*continued*

**Table 13-2: 64 Node Fast Ethernet Cabling for DL145 LC Clusters Expandable to 192 Nodes***continued*

OOB Switch Cabling		Cluster Interconnect Switch Cabling		IB Management Switch Cabling	
Origin (server)	Destination (switch)	Origin (server)	Destination (switch)	Origin (server)	Destination (switch)
R1-S14-IPMI	R1-SW2-P14	R1-S14-NIC1	R2-SW1-MC-P22	R1-S14-NIC2	R1-SW1-P14
R1-S15-IPMI	R1-SW2-P15	R1-S15-NIC1	R2-SW1-MC-P23	R1-S15-NIC2	R1-SW1-P15
R1-S16-IPMI	R1-SW2-P16	R1-S16-NIC1	R2-SW1-MC-P24	R1-S16-NIC2	R1-SW1-P16
R1-S17-IPMI	R1-SW2-P17	R1-S17-NIC1	R2-SW1-MD-P1	R1-S17-NIC2	R1-SW1-P17
R1-S18-IPMI	R1-SW2-P18	R1-S18-NIC1	R2-SW1-MD-P2	R1-S18-NIC2	R1-SW1-P18
R1-S19-IPMI	R1-SW2-P19	R1-S19-NIC1	R2-SW1-MD-P3	R1-S19-NIC2	R1-SW1-P19
R1-S20-IPMI	R1-SW2-P20	R1-S20-NIC1	R2-SW1-MD-P4	R1-S20-NIC2	R1-SW1-P20
R1-S21-IPMI	R1-SW2-P21	R1-S21-NIC1	R2-SW1-MD-P5	R1-S21-NIC2	R1-SW1-P21
R1-S22-IPMI	R1-SW2-P22	R1-S22-NIC1	R2-SW1-MD-P6	R1-S22-NIC2	R1-SW1-P22
R1-S23-IPMI	R1-SW2-P23	R1-S23-NIC1	R2-SW1-MD-P7	R1-S23-NIC2	R1-SW1-P23
R1-S24-IPMI	R1-SW2-P24	R1-S24-NIC1	R2-SW1-MD-P8	R1-S24-NIC2	R1-SW1-P24
R1-S25-IPMI	R1-SW2-P25	R1-S25-NIC1	R2-SW1-MD-P9	R1-S25-NIC2	R1-SW1-P25
R1-S26-IPMI	R1-SW2-P26	R1-S26-NIC1	R2-SW1-MD-P10	R1-S26-NIC2	R1-SW1-P26
R1-S27-IPMI	R1-SW2-P27	R1-S27-NIC1	R2-SW1-MD-P11	R1-S27-NIC2	R1-SW1-P27
R1-S28-IPMI	R1-SW2-P28	R1-S28-NIC1	R2-SW1-MD-P12	R1-S28-NIC2	R1-SW1-P28
R1-S29-IPMI	R1-SW2-P29	R1-S29-NIC1	R2-SW1-MD-P13	R1-S29-NIC2	R1-SW1-P29
R1-S30-IPMI	R1-SW2-P30	R1-S30-NIC1	R2-SW1-MD-P14	R1-S30-NIC2	R1-SW1-P30
R1-S31-IPMI	R1-SW2-P31	R1-S31-NIC1	R2-SW1-MD-P15	R1-S31-NIC2	R1-SW1-P31
R1-S32-IPMI	R1-SW2-P32	R1-S32-NIC1	R2-SW1-MD-P16	R1-S32-NIC2	R1-SW1-P32
R1-S33-IPMI	R1-SW2-P33	R1-S33-NIC1	R2-SW1-MD-P17	R1-S33-NIC2	R1-SW1-P33
R1-S34-IPMI	R1-SW2-P34	R1-S34-NIC1	R2-SW1-MD-P18	R1-S34-NIC2	R1-SW1-P34
R1-S35-IPMI	R1-SW2-P35	R1-S35-NIC1	R2-SW1-MD-P19	R1-S35-NIC2	R1-SW1-P35
R1-S36-IPMI	R1-SW2-P36	R1-S36-NIC1	R2-SW1-MD-P20	R1-S36-NIC2	R1-SW1-P36
R1-S37-IPMI	R1-SW2-P37	R1-S37-NIC1	R2-SW1-MD-P21	R1-S37-NIC2	R1-SW1-P37
R1-S38-IPMI	R1-SW2-P38	R1-S38-NIC1	R2-SW1-MD-P22	R1-S38-NIC2	R1-SW1-P38
R1-S39-IPMI	R1-SW2-P39	R1-S39-NIC1	R2-SW1-MD-P23	R1-S39-NIC2	R1-SW1-P39
R1-S40-IPMI	R1-SW2-P40	R1-S40-NIC1	R2-SW1-MD-P24	R1-S40-NIC2	R1-SW1-P40
R2-S1-IPMI	R2-SW3-P1	R2-S1-NIC1	R2-SW1-MB-P1	R2-S1-NIC2	R2-SW2-P1
R2-S2-IPMI	R2-SW3-P2	R2-S2-NIC1	R2-SW1-MB-P2	R2-S2-NIC2	R2-SW2-P2
R2-S3-IPMI	R2-SW3-P3	R2-S3-NIC1	R2-SW1-MB-P3	R2-S3-NIC2	R2-SW2-P3

*continued*

**Table 13-2: 64 Node Fast Ethernet Cabling for DL145 LC Clusters Expandable to 192 Nodes***continued*

OOB Switch Cabling		Cluster Interconnect Switch Cabling		IB Management Switch Cabling	
Origin (server)	Destination (switch)	Origin (server)	Destination (switch)	Origin (server)	Destination (switch)
R2-S4-IPMI	R2-SW3-P4	R2-S4-NIC1	R2-SW1-MB-P4	R2-S4-NIC2	R2-SW2-P4
R2-S5-IPMI	R2-SW3-P5	R2-S5-NIC1	R2-SW1-MB-P5	R2-S5-NIC2	R2-SW2-P5
R2-S6-IPMI	R2-SW3-P6	R2-S6-NIC1	R2-SW1-MB-P6	R2-S6-NIC2	R2-SW2-P6
R2-S7-IPMI	R2-SW3-P7	R2-S7-NIC1	R2-SW1-MB-P7	R2-S7-NIC2	R2-SW2-P7
R2-S8-IPMI	R2-SW3-P8	R2-S8-NIC1	R2-SW1-MB-P8	R2-S8-NIC2	R2-SW2-P8
R2-S9-IPMI	R2-SW3-P9	R2-S9-NIC1	R2-SW1-MB-P9	R2-S9-NIC2	R2-SW2-P9
R2-S10-IPMI	R2-SW3-P10	R2-S10-NIC1	R2-SW1-MB-P10	R2-S10-NIC2	R2-SW2-P10
R2-S11-IPMI	R2-SW3-P11	R2-S11-NIC1	R2-SW1-MB-P11	R2-S11-NIC2	R2-SW2-P11
R2-S12-IPMI	R2-SW3-P12	R2-S12-NIC1	R2-SW1-MB-P12	R2-S12-NIC2	R2-SW2-P12
R2-S13-IPMI	R2-SW3-P13	R2-S13-NIC1	R2-SW1-MB-P13	R2-S13-NIC2	R2-SW2-P13
R2-S14-IPMI	R2-SW3-P14	R2-S14-NIC1	R2-SW1-MB-P14	R2-S14-NIC2	R2-SW2-P14
R2-S15-IPMI	R2-SW3-P15	R2-S15-NIC1	R2-SW1-MB-P15	R2-S15-NIC2	R2-SW2-P15
R2-S16-IPMI	R2-SW3-P16	R2-S16-NIC1	R2-SW1-MB-P16	R2-S16-NIC2	R2-SW2-P16
R2-S17-IPMI	R2-SW3-P17	R2-S17-NIC1	R2-SW1-MB-P17	R2-S17-NIC2	R2-SW2-P17
R2-S18-IPMI	R2-SW3-P18	R2-S18-NIC1	R2-SW1-MB-P18	R2-S18-NIC2	R2-SW2-P18
R2-S19-IPMI	R2-SW3-P19	R2-S19-NIC1	R2-SW1-MB-P19	R2-S19-NIC2	R2-SW2-P19
R2-S20-IPMI	R2-SW3-P20	R2-S20-NIC1	R2-SW1-MB-P20	R2-S20-NIC2	R2-SW2-P20
N/A	N/A	N/A	N/A	R2-S21-NIC2	R2-SW2-P21
R2-S22-IPMI	R2-SW3-P22	R2-S22-NIC1	R2-SW1-MB-P21	R2-S22-NIC2	R2-SW2-P22
R2-S23-IPMI	R2-SW3-P23	R2-S23-NIC1	R2-SW1-MB-P22	R2-S23-NIC2	R2-SW2-P23
R2-S24-IPMI	R2-SW3-P24	R2-S24-NIC1	R2-SW1-MB-P23	R2-S24-NIC2	R2-SW2-P24
R2-S25-IPMI	R2-SW3-P25	R2-S25-NIC1	R2-SW1-MB-P24	R2-S25-NIC2	R2-SW2-P25
R2-S26-IPMI	R2-SW3-P26	R2-S26-NIC1	R2-SW1-MC-P1	R2-S26-NIC2	R2-SW2-P26
R2-S27-IPMI	R2-SW3-P27	R2-S27-NIC1	R2-SW1-MC-P2	R2-S27-NIC2	R2-SW2-P27
R2-S28-IPMI	R2-SW3-P28	R2-S28-NIC1	R2-SW1-MC-P3	R2-S28-NIC2	R2-SW2-P28
R2-S29-IPMI	R2-SW3-P29	R2-S29-NIC1	R2-SW1-MC-P4	R2-S29-NIC2	R2-SW2-P29
R2-S30-IPMI	R2-SW3-P30	R2-S30-NIC1	R2-SW1-MC-P5	R2-S30-NIC2	R2-SW2-P30
R2-S31-IPMI	R2-SW3-P31	R2-S31-NIC1	R2-SW1-MC-P6	R2-S31-NIC2	R2-SW2-P31
R2-S32-IPMI	R2-SW3-P32	R2-S32-NIC1	R2-SW1-MC-P7	R2-S32-NIC2	R2-SW2-P32
R2-S33-IPMI	R2-SW3-P33	R2-S33-NIC1	R2-SW1-MC-P8	R2-S33-NIC2	R2-SW2-P33

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**Table 13-2: 64 Node Fast Ethernet Cabling for DL145 LC Clusters Expandable to 192 Nodes***continued*

OOB Switch Cabling		Cluster Interconnect Switch Cabling		IB Management Switch Cabling	
Origin (server)	Destination (switch)	Origin (server)	Destination (switch)	Origin (server)	Destination (switch)
R3-S1-IPMI	R3-SW2-P1	R3-S1-NIC1	R2-SW1-ME-P1	R3-S1-NIC2	R3-SW1-P1
R3-S2-IPMI	R3-SW2-P2	R3-S2-NIC1	R2-SW1-ME-P2	R3-S2-NIC2	R3-SW1-P2
R3-S3-IPMI	R3-SW2-P3	R3-S3-NIC1	R2-SW1-ME-P3	R3-S3-NIC2	R3-SW1-P3
R3-S4-IPMI	R3-SW2-P4	R3-S4-NIC1	R2-SW1-ME-P4	R3-S4-NIC2	R3-SW1-P4
R3-S5-IPMI	R3-SW2-P5	R3-S5-NIC1	R2-SW1-ME-P5	R3-S5-NIC2	R3-SW1-P5
R3-S6-IPMI	R3-SW2-P6	R3-S6-NIC1	R2-SW1-ME-P6	R3-S6-NIC2	R3-SW1-P6
R3-S7-IPMI	R3-SW2-P7	R3-S7-NIC1	R2-SW1-ME-P7	R3-S7-NIC2	R3-SW1-P7
R3-S8-IPMI	R3-SW2-P8	R3-S8-NIC1	R2-SW1-ME-P8	R3-S8-NIC2	R3-SW1-P8
R3-S9-IPMI	R3-SW2-P9	R3-S9-NIC1	R2-SW1-ME-P9	R3-S9-NIC2	R3-SW1-P9
R3-S10-IPMI	R3-SW2-P10	R3-S10-NIC1	R2-SW1-ME-P10	R3-S10-NIC2	R3-SW1-P10
R3-S11-IPMI	R3-SW2-P11	R3-S11-NIC1	R2-SW1-ME-P11	R3-S11-NIC2	R3-SW1-P11
R3-S12-IPMI	R3-SW2-P12	R3-S12-NIC1	R2-SW1-ME-P12	R3-S12-NIC2	R3-SW1-P12
R3-S13-IPMI	R3-SW2-P13	R3-S13-NIC1	R2-SW1-ME-P13	R3-S13-NIC2	R3-SW1-P13
R3-S14-IPMI	R3-SW2-P14	R3-S14-NIC1	R2-SW1-ME-P14	R3-S14-NIC2	R3-SW1-P14
R3-S15-IPMI	R3-SW2-P15	R3-S15-NIC1	R2-SW1-ME-P15	R3-S15-NIC2	R3-SW1-P15
R3-S16-IPMI	R3-SW2-P16	R3-S16-NIC1	R2-SW1-ME-P16	R3-S16-NIC2	R3-SW1-P16
R3-S17-IPMI	R3-SW2-P17	R3-S17-NIC1	R2-SW1-ME-P17	R3-S17-NIC2	R3-SW1-P17
R3-S18-IPMI	R3-SW2-P18	R3-S18-NIC1	R2-SW1-ME-P18	R3-S18-NIC2	R3-SW1-P18
R3-S19-IPMI	R3-SW2-P19	R3-S19-NIC1	R2-SW1-ME-P19	R3-S19-NIC2	R3-SW1-P19
R3-S20-IPMI	R3-SW2-P20	R3-S20-NIC1	R2-SW1-ME-P20	R3-S20-NIC2	R3-SW1-P20
R3-S21-IPMI	R3-SW2-P21	R3-S21-NIC1	R2-SW1-ME-P21	R3-S21-NIC2	R3-SW1-P21
R3-S22-IPMI	R3-SW2-P22	R3-S22-NIC1	R2-SW1-ME-P22	R3-S22-NIC2	R3-SW1-P22
R3-S23-IPMI	R3-SW2-P23	R3-S23-NIC1	R2-SW1-ME-P23	R3-S23-NIC2	R3-SW1-P23
R3-S24-IPMI	R3-SW2-P24	R3-S24-NIC1	R2-SW1-ME-P24	R3-S24-NIC2	R3-SW1-P24
R3-S25-IPMI	R3-SW2-P25	R3-S25-NIC1	R2-SW1-MF-P1	R3-S25-NIC2	R3-SW1-P25
R3-S26-IPMI	R3-SW2-P26	R3-S26-NIC1	R2-SW1-MF-P2	R3-S26-NIC2	R3-SW1-P26
R3-S27-IPMI	R3-SW2-P27	R3-S27-NIC1	R2-SW1-MF-P3	R3-S27-NIC2	R3-SW1-P27
R3-S28-IPMI	R3-SW2-P28	R3-S28-NIC1	R2-SW1-MF-P4	R3-S28-NIC2	R3-SW1-P28
R3-S29-IPMI	R3-SW2-P29	R3-S29-NIC1	R2-SW1-MF-P5	R3-S29-NIC2	R3-SW1-P29
R3-S30-IPMI	R3-SW2-P30	R3-S30-NIC1	R2-SW1-MF-P6	R3-S30-NIC2	R3-SW1-P30

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**Table 13-2: 64 Node Fast Ethernet Cabling for DL145 LC Clusters Expandable to 192 Nodes***continued*

OOB Switch Cabling		Cluster Interconnect Switch Cabling		IB Management Switch Cabling	
Origin (server)	Destination (switch)	Origin (server)	Destination (switch)	Origin (server)	Destination (switch)
R3-S31-IPMI	R3-SW2-P31	R3-S31-NIC1	R2-SW1-MF-P7	R3-S31-NIC2	R3-SW1-P31
R3-S32-IPMI	R3-SW2-P32	R3-S32-NIC1	R2-SW1-MF-P8	R3-S32-NIC2	R3-SW1-P32
R3-S33-IPMI	R3-SW2-P33	R3-S33-NIC1	R2-SW1-MF-P9	R3-S33-NIC2	R3-SW1-P33
R3-S34-IPMI	R3-SW2-P34	R3-S34-NIC1	R2-SW1-MF-P10	R3-S34-NIC2	R3-SW1-P34
R3-S35-IPMI	R3-SW2-P35	R3-S35-NIC1	R2-SW1-MF-P11	R3-S35-NIC2	R3-SW1-P35
R3-S36-IPMI	R3-SW2-P36	R3-S36-NIC1	R2-SW1-MF-P12	R3-S36-NIC2	R3-SW1-P36
R3-S37-IPMI	R3-SW2-P37	R3-S37-NIC1	R2-SW1-MF-P13	R3-S37-NIC2	R3-SW1-P37
R3-S38-IPMI	R3-SW2-P38	R3-S38-NIC1	R2-SW1-MF-P14	R3-S38-NIC2	R3-SW1-P38
R3-S39-IPMI	R3-SW2-P39	R3-S39-NIC1	R2-SW1-MF-P15	R3-S39-NIC2	R3-SW1-P39
R3-S40-IPMI	R3-SW2-P40	R3-S40-NIC1	R2-SW1-MF-P16	R3-S40-NIC2	R3-SW1-P40
R4-S1-IPMI	R4-SW2-P1	R4-S1-NIC1	R2-SW1-MF-P17	R4-S1-NIC2	R4-SW1-P1
R4-S2-IPMI	R4-SW2-P2	R4-S2-NIC1	R2-SW1-MF-P18	R4-S2-NIC2	R4-SW1-P2
R4-S3-IPMI	R4-SW2-P3	R4-S3-NIC1	R2-SW1-MF-P19	R4-S3-NIC2	R4-SW1-P3
R4-S4-IPMI	R4-SW2-P4	R4-S4-NIC1	R2-SW1-MF-P20	R4-S4-NIC2	R4-SW1-P4
R4-S5-IPMI	R4-SW2-P5	R4-S5-NIC1	R2-SW1-MF-P21	R4-S5-NIC2	R4-SW1-P5
R4-S6-IPMI	R4-SW2-P6	R4-S6-NIC1	R2-SW1-MF-P22	R4-S6-NIC2	R4-SW1-P6
R4-S7-IPMI	R4-SW2-P7	R4-S7-NIC1	R2-SW1-MF-P23	R4-S7-NIC2	R4-SW1-P7
R4-S8-IPMI	R4-SW2-P8	R4-S8-NIC1	R2-SW1-MF-P24	R4-S8-NIC2	R4-SW1-P8
R4-S9-IPMI	R4-SW2-P9	R4-S9-NIC1	R2-SW1-MG-P1	R4-S9-NIC2	R4-SW1-P9
R4-S10-IPMI	R4-SW2-P10	R4-S10-NIC1	R2-SW1-MG-P2	R4-S10-NIC2	R4-SW1-P10
R4-S11-IPMI	R4-SW2-P11	R4-S11-NIC1	R2-SW1-MG-P3	R4-S11-NIC2	R4-SW1-P11
R4-S12-IPMI	R4-SW2-P12	R4-S12-NIC1	R2-SW1-MG-P4	R4-S12-NIC2	R4-SW1-P12
R4-S13-IPMI	R4-SW2-P13	R4-S13-NIC1	R2-SW1-MG-P5	R4-S13-NIC2	R4-SW1-P13
R4-S14-IPMI	R4-SW2-P14	R4-S14-NIC1	R2-SW1-MG-P6	R4-S14-NIC2	R4-SW1-P14
R4-S15-IPMI	R4-SW2-P15	R4-S15-NIC1	R2-SW1-MG-P7	R4-S15-NIC2	R4-SW1-P15
R4-S16-IPMI	R4-SW2-P16	R4-S16-NIC1	R2-SW1-MG-P8	R4-S16-NIC2	R4-SW1-P16
R4-S17-IPMI	R4-SW2-P17	R4-S17-NIC1	R2-SW1-MG-P9	R4-S17-NIC2	R4-SW1-P17
R4-S18-IPMI	R4-SW2-P18	R4-S18-NIC1	R2-SW1-MG-P10	R4-S18-NIC2	R4-SW1-P18
R4-S19-IPMI	R4-SW2-P19	R4-S19-NIC1	R2-SW1-MG-P11	R4-S19-NIC2	R4-SW1-P19
R4-S20-IPMI	R4-SW2-P20	R4-S20-NIC1	R2-SW1-MG-P12	R4-S20-NIC2	R4-SW1-P20

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**Table 13-2: 64 Node Fast Ethernet Cabling for DL145 LC Clusters Expandable to 192 Nodes***continued*

OOB Switch Cabling		Cluster Interconnect Switch Cabling		IB Management Switch Cabling	
Origin (server)	Destination (switch)	Origin (server)	Destination (switch)	Origin (server)	Destination (switch)
R4-S21-IPMI	R4-SW2-P21	R4-S21-NIC1	R2-SW1-MG-P13	R4-S21-NIC2	R4-SW1-P21
R4-S22-IPMI	R4-SW2-P22	R4-S22-NIC1	R2-SW1-MG-P14	R4-S22-NIC2	R4-SW1-P22
R4-S23-IPMI	R4-SW2-P23	R4-S23-NIC1	R2-SW1-MG-P15	R4-S23-NIC2	R4-SW1-P23
R4-S24-IPMI	R4-SW2-P24	R4-S24-NIC1	R2-SW1-MG-P16	R4-S24-NIC2	R4-SW1-P24
R4-S25-IPMI	R4-SW2-P25	R4-S25-NIC1	R2-SW1-MG-P17	R4-S25-NIC2	R4-SW1-P25
R4-S26-IPMI	R4-SW2-P26	R4-S26-NIC1	R2-SW1-MG-P18	R4-S26-NIC2	R4-SW1-P26
R4-S27-IPMI	R4-SW2-P27	R4-S27-NIC1	R2-SW1-MG-P19	R4-S27-NIC2	R4-SW1-P27
R4-S28-IPMI	R4-SW2-P28	R4-S28-NIC1	R2-SW1-MG-P20	R4-S28-NIC2	R4-SW1-P28
R4-S29-IPMI	R4-SW2-P29	R4-S29-NIC1	R2-SW1-MG-P21	R4-S29-NIC2	R4-SW1-P29
R4-S30-IPMI	R4-SW2-P30	R4-S30-NIC1	R2-SW1-MG-P22	R4-S30-NIC2	R4-SW1-P30
R4-S31-IPMI	R4-SW2-P31	R4-S31-NIC1	R2-SW1-MG-P23	R4-S31-NIC2	R4-SW1-P31
R4-S32-IPMI	R4-SW2-P32	R4-S32-NIC1	R2-SW1-MG-P24	R4-S32-NIC2	R4-SW1-P32
R4-S33-IPMI	R4-SW2-P33	R4-S33-NIC1	R2-SW1-MH-P1	R4-S33-NIC2	R4-SW1-P33
R4-S34-IPMI	R4-SW2-P34	R4-S34-NIC1	R2-SW1-MH-P2	R4-S34-NIC2	R4-SW1-P34
R4-S35-IPMI	R4-SW2-P35	R4-S35-NIC1	R2-SW1-MH-P3	R4-S35-NIC2	R4-SW1-P35
R4-S36-IPMI	R4-SW2-P36	R4-S36-NIC1	R2-SW1-MH-P4	R4-S36-NIC2	R4-SW1-P36
R4-S37-IPMI	R4-SW2-P37	R4-S37-NIC1	R2-SW1-MH-P5	R4-S37-NIC2	R4-SW1-P37
R4-S38-IPMI	R4-SW2-P38	R4-S38-NIC1	R2-SW1-MH-P6	R4-S38-NIC2	R4-SW1-P38
R4-S39-IPMI	R4-SW2-P39	R4-S39-NIC1	R2-SW1-MH-P7	R4-S39-NIC2	R4-SW1-P39
R4-S40-IPMI	R4-SW2-P40	R4-S40-NIC1	R2-SW1-MH-P8	R4-S40-NIC2	R4-SW1-P40
R5-S1-IPMI	R5-SW2-P1	R5-S1-NIC1	R2-SW1-MH-P9	R5-S1-NIC2	R5-SW1-P1
R5-S2-IPMI	R5-SW2-P2	R5-S2-NIC1	R2-SW1-MH-P10	R5-S2-NIC2	R5-SW1-P2
R5-S3-IPMI	R5-SW2-P3	R5-S3-NIC1	R2-SW1-MH-P11	R5-S3-NIC2	R5-SW1-P3
R5-S4-IPMI	R5-SW2-P4	R5-S4-NIC1	R2-SW1-MH-P12	R5-S4-NIC2	R5-SW1-P4
R5-S5-IPMI	R5-SW2-P5	R5-S5-NIC1	R2-SW1-MH-P13	R5-S5-NIC2	R5-SW1-P5
R5-S6-IPMI	R5-SW2-P6	R5-S6-NIC1	R2-SW1-MH-P14	R5-S6-NIC2	R5-SW1-P6
R5-S7-IPMI	R5-SW2-P7	R5-S7-NIC1	R2-SW1-MH-P15	R5-S7-NIC2	R5-SW1-P7
R5-S8-IPMI	R5-SW2-P8	R5-S8-NIC1	R2-SW1-MH-P16	R5-S8-NIC2	R5-SW1-P8
R5-S9-IPMI	R5-SW2-P9	R5-S9-NIC1	R2-SW1-MH-P17	R5-S9-NIC2	R5-SW1-P9
R5-S10-IPMI	R5-SW2-P10	R5-S10-NIC1	R2-SW1-MH-P18	R5-S10-NIC2	R5-SW1-P10

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**Table 13-2: 64 Node Fast Ethernet Cabling for DL145 LC Clusters Expandable to 192 Nodes***continued*

OOB Switch Cabling		Cluster Interconnect Switch Cabling		IB Management Switch Cabling	
Origin (server)	Destination (switch)	Origin (server)	Destination (switch)	Origin (server)	Destination (switch)
R5-S11-IPMI	R5-SW2-P11	R5-S11-NIC1	R2-SW1-MH-P19	R5-S11-NIC2	R5-SW1-P11
R5-S12-IPMI	R5-SW2-P12	R5-S12-NIC1	R2-SW1-MH-P20	R5-S12-NIC2	R5-SW1-P12
R5-S13-IPMI	R5-SW2-P13	R5-S13-NIC1	R2-SW1-MH-P21	R5-S13-NIC2	R5-SW1-P13
R5-S14-IPMI	R5-SW2-P14	R5-S14-NIC1	R2-SW1-MH-P22	R5-S14-NIC2	R5-SW1-P14
R5-S15-IPMI	R5-SW2-P15	R5-S15-NIC1	R2-SW1-MH-P23	R5-S15-NIC2	R5-SW1-P15
R5-S16-IPMI	R5-SW2-P16	R5-S16-NIC1	R2-SW1-MH-P24	R5-S16-NIC2	R5-SW1-P16
R5-S17-IPMI	R5-SW2-P17	R5-S17-NIC1	R2-SW1-MA-P1	R5-S17-NIC2	R5-SW1-P17
R5-S18-IPMI	R5-SW2-P18	R5-S18-NIC1	R2-SW1-MA-P2	R5-S18-NIC2	R5-SW1-P18
R5-S19-IPMI	R5-SW2-P19	R5-S19-NIC1	R2-SW1-MA-P3	R5-S19-NIC2	R5-SW1-P19
R5-S20-IPMI	R5-SW2-P20	R5-S20-NIC1	R2-SW1-MA-P4	R5-S20-NIC2	R5-SW1-P20
R5-S21-IPMI	R5-SW2-P21	R5-S21-NIC1	R2-SW1-MA-P5	R5-S21-NIC2	R5-SW1-P21
R5-S22-IPMI	R5-SW2-P22	R5-S22-NIC1	R2-SW1-MA-P6	R5-S22-NIC2	R5-SW1-P22
R5-S23-IPMI	R5-SW2-P23	R5-S23-NIC1	R2-SW1-MA-P7	R5-S23-NIC2	R5-SW1-P23
R5-S24-IPMI	R5-SW2-P24	R5-S24-NIC1	R2-SW1-MA-P8	R5-S24-NIC2	R5-SW1-P24
R5-S25-IPMI	R5-SW2-P25	R5-S25-NIC1	R2-SW1-MA-P9	R5-S25-NIC2	R5-SW1-P25
R5-S26-IPMI	R5-SW2-P26	R5-S26-NIC1	R2-SW1-MA-P10	R5-S26-NIC2	R5-SW1-P26
R5-S27-IPMI	R5-SW2-P27	R5-S27-NIC1	R2-SW1-MA-P11	R5-S27-NIC2	R5-SW1-P27
R5-S28-IPMI	R5-SW2-P28	R5-S28-NIC1	R2-SW1-MA-P12	R5-S28-NIC2	R5-SW1-P28
R5-S29-IPMI	R5-SW2-P29	R5-S29-NIC1	R2-SW1-MA-P13	R5-S29-NIC2	R5-SW1-P29
R5-S30-IPMI	R5-SW2-P30	R5-S30-NIC1	R2-SW1-MA-P14	R5-S30-NIC2	R5-SW1-P30
R5-S31-IPMI	R5-SW2-P31	R5-S31-NIC1	R2-SW1-MA-P15	R5-S31-NIC2	R5-SW1-P31
R5-S32-IPMI	R5-SW2-P32	R5-S32-NIC1	R2-SW1-MA-P16	R5-S32-NIC2	R5-SW1-P32
R5-S33-IPMI	R5-SW2-P33	R5-S33-NIC1	R2-SW1-MA-P17	R5-S33-NIC2	R5-SW1-P33
R5-S34-IPMI	R5-SW2-P34	R5-S34-NIC1	R2-SW1-MA-P18	R5-S34-NIC2	R5-SW1-P34
R5-S35-IPMI	R5-SW2-P35	R5-S35-NIC1	R2-SW1-MA-P19	R5-S35-NIC2	R5-SW1-P35
R5-S36-IPMI	R5-SW2-P36	R5-S36-NIC1	R2-SW1-MA-P20	R5-S36-NIC2	R5-SW1-P36
R5-S37-IPMI	R5-SW2-P37	R5-S37-NIC1	R2-SW1-MA-P21	R5-S37-NIC2	R5-SW1-P37
R5-S38-IPMI	R5-SW2-P38	R5-S38-NIC1	R2-SW1-MA-P22	R5-S38-NIC2	R5-SW1-P38
R5-S39-IPMI	R5-SW2-P39	R5-S39-NIC1	R2-SW1-MA-P23	R5-S39-NIC2	R5-SW1-P39
R5-S40-IPMI	R5-SW2-P40	R5-S40-NIC1	R2-SW1-MA-P24	R5-S40-NIC2	R5-SW1-P40



Table 13-3: OOB Management Switch Uplink	
From	To
R1-SW2-P48	R1-SW1-P48
R2-SW3-P48	R2-SW2-P48
R3-SW2-P48	R3-SW1-P48
R4-SW2-P48	R4-SW1-P48
R5-SW2-P48	R5-SW1-P48

Table 13-4: IB Management Switch Uplink		
From	To	
R2-SW2-P47	R1-SW1-P50	Trunked together
R2-SW2-P46	R1-SW1-P49	
R2-SW2-P45	R3-SW1-P50	Trunked together
R2-SW2-P44	R3-SW1-P49	
R2-SW2-P43	R4-SW1-P50	Trunked together
R2-SW2-P42	R4-SW1-P49	
R2-SW2-P41	R5-SW1-P50	Trunked together
R2-SW2-P40	R5-SW1-P49	

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## Cabling Rules for LC Clusters

HP factory-configured LC clusters are built according to these guidelines for numbering, labeling, and populating LC clusters. The guidelines are included in this document as reference information for customers who are customizing or upgrading existing LC clusters.

### Numbering and Cable Labeling Rules

**Racks**—Racks are numbered 1 to n and from left to right. The racks are labeled “Rack n,” where n is the rack number. Cable labels include the rack number and are labeled “Rn,” where n is the rack number.

**Servers**—Servers are numbered from 1 to n and from bottom to top in each rack. Labels on cables connected to the servers include “Sn,” where n is the server number in the rack.

**Switches**—Switches are numbered from 1 to n and from bottom to top in each rack. Labels on cables connected to the switches include “SWn,” where n is the switch number in the rack.

**Switch Modules (modules, line cards)**—Labels on cables connected to the modules use the hardware markings with an “M” designator. If the hardware marks a module “A” or “1,” then the cable labels refer to the modules as “MA” or “M1,” respectively. For modules without markings on the hardware, the labels on the cables connected to the modules include “Mn,” where n is the module number. The module numbering starts at 1 and increases from left to right and then bottom to top.

**Ports**—Labels on cables connected to the ports use the hardware markings, if available, or use “Pn,” where n is the port number, if the ports are numbered. For example, if the hardware marks ports with “iLO,” “NIC1,” or “1,” then cable labels refer to these ports as “iLO,” “NIC1,” and “P1,” respectively.

Labels on cables connected to ports with no markings on the hardware include “Pn,” where n is the port number. The numbering starts at 1 and increases from left to right and then bottom to top. This port numbering applies to servers, PCI cards with multiple ports, and switches.

Some hardware, such as a server, can have different types of unlabeled ports. A server may have multiple serial ports, NIC ports, and multiple USB ports, for example. Labels on cables connected to these ports refer to them by their function and number instead of generically labeling all ports from 1 to n. For example, “SER,” “NIC1,” “NIC2,” “USB1,” and “USB2.”

If there is only one port on a device, such as a PCI card, n is not used. It is labeled with the device name, such as “PCI.”

**PCI Cards**—Labels on cables connected to the PCI cards use the PCI slot markings on the server if available. The designator of the actual slot name is used on the labels, if present, or “PCIn” is used, where n is the slot number, if the slots are numbered. For example, if the hardware marks the slots with “1” or “2,” then the cable labels refer to these slots as “PCI1” and “PCI2,” respectively.

If the slots are not uniquely identified by markings on the server, then the numbering starts at 1 and increases from left to right and then bottom to top. For slots without markings on the server, the labels on the cables connected to these PCI cards include “PCIn,” where n is the slot number. All cable labels to or from PCI cards, regardless of type (NIC, IB, Myrinet), are labeled with “PCI.”

If there is only one PCI device used in a server, n is not used. It is labeled “PCI.”

**Storage Systems**—Storage systems are numbered from 1 to n and from bottom to top in each rack. Labels on cables connected to storage devices will include “STn,” where n is the storage device number in the rack.

**Power**—Power cord labeling is according to factory standards. The factory typically uses color-coding to label the power cables.

## Rack Population Rules

**Servers, Switches, and Storage System**—These components are populated in the rack from bottom to top with the lowest numbered component in the lowest rack position.

**Switch Modules and PCI Cards**—These components are populated in the lowest available module port or slot number. Additional modules and cards are installed in the next higher module port or slot number. Exceptions to this rule apply when a specific type of module or card must be installed in a specific module port or slot.

**Ports**—Ports start with the lowest numbered port and increase unless the following rules apply:

- Switch ports (single function switch, for example: Cyclades terminal server):
  - Server-to-switch connections start with the lowest port and increase.
  - Switch-to-switch connections start with the uplink ports first and then with the highest numbered port and work backwards.
- Switch ports (multi-function switch, for example: 16 node system where the interconnect and the management networks connect to the same switch):
  - Server-to-switch connections: The switch is split into “regions” for each functional area and then populated from the lowest port number per region and work up.
  - Switch-to-switch connections start with the uplink ports first and then with the highest numbered port and work backwards.
  - When dividing the switch into functional regions, be sure to reserve enough ports at the top end to handle the switch-to-switch connections. Use this formula to determine the number of ports for each region in the switch:  $((\text{Total switch ports}) - (\text{ports reserved for switch-to-switch connections})) / (\# \text{ of regions})$ .

**Power Connections**—The factory distributes the power connections across the PDUs in the LC cluster to avoid overload conditions. The most common PDUs used in the LC clusters are the 24A and 32A Control Units with four, eight-receptacle Extension Bars. Using these PDUs, the factory will not connect more than five components to an Extension Bar and no more than 14 total components to each PDU. Different population rules may apply to different capacity PDUs.

Even though the base PDUs can support four, eight-receptacle Extension Bars, the LC clusters might not ship with all the Extension Bars if they are not used. Overload conditions could result from using unused Extension Bars.